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Natural  
Resources  
Conservation  
Service

In cooperation with  
United States Department of  
Agriculture, Forest Service;  
Missouri Agricultural Experiment  
Station, Missouri Department of  
Natural Resources, and Stone  
County Soil and Water  
Conservation District

# Soil Survey of Stone County, Missouri



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# How to Use This Soil Survey

## General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

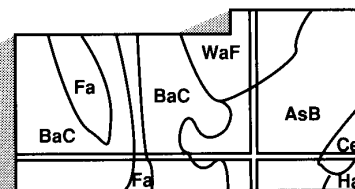
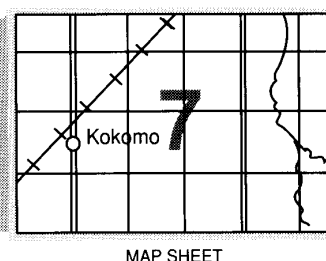
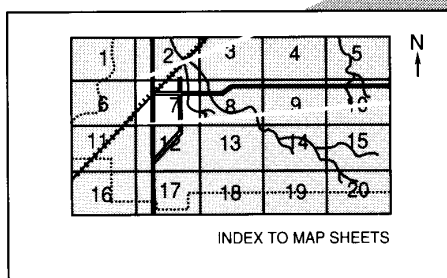
## Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1995. Soil names and descriptions were approved in 1995. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This survey was made cooperatively by the Natural Resources Conservation Service; the United States Department of Agriculture, Forest Service; and the Missouri Agricultural Experiment Station. The Missouri Department of Natural Resources provided soil scientists to assist with the fieldwork. The survey is part of the technical assistance furnished to the Stone County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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**Cover: Agriculture and recreation coexist as campers enjoy Table Rock Lake at the edge of a hay field in an area of Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded. An area of Sonsac-Moko-Rock outcrop association is in the background.**

*Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is <http://www.nrcs.usda.gov> (click on "Technical Resources").*

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# Foreword

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This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Roger A. Hansen  
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# Soil Survey of Stone County, Missouri

By Kenneth L. Gregg, Natural Resources Conservation Service

Fieldwork by Kenneth L. Gregg and Michael W. Burney, Natural Resources Conservation Service; and J. Scott Eversoll, Jeffery A. Woodward, and John E. Bowers, Missouri Department of Natural Resources

United States Department of Agriculture, Natural Resources Conservation Service and Forest Service, in cooperation with Missouri Agricultural Experiment Station, Missouri Department of Natural Resources, and Stone County Soil and Water Conservation District

STONE COUNTY is in the southwest part of Missouri (fig. 1). It is bordered on the north and east by Christian County, on the west by Lawrence and Barry Counties, on the south by Carroll County, Arkansas, and on the east by Taney County.

Stone County has an area of 326,848 acres, or about 511 square miles, including 38,272 acres of water areas that are 40 acres or more in size. Table Rock Lake is located in the southern part of the county.

Galena, near the center of the county, is the county seat. Kimberling City is the largest town and had a population of 1,590 in 1990. In the same year, the population of the county was 19,078 (Missouri Department of Agriculture, 1992).

The county is in two major land resource areas within the East and Central Farming and Forest Region. The northern half of the county is in the Ozark Border area, and the southern half of the county is in the Ozark Highland area.

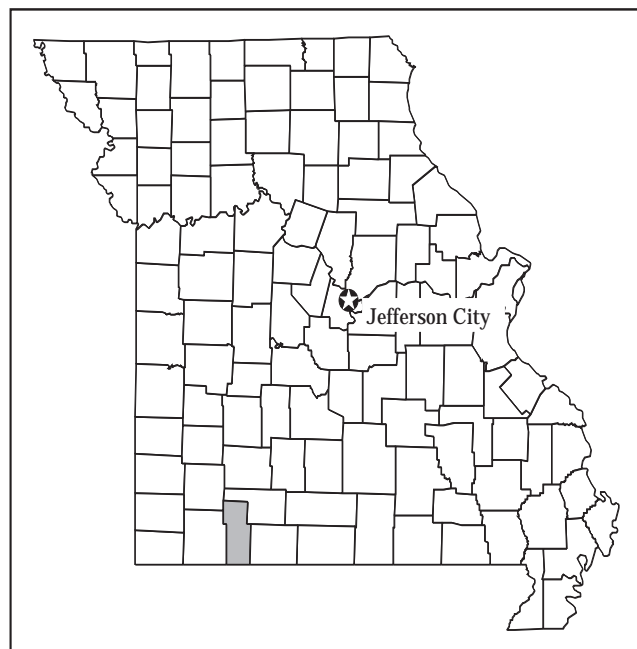


Figure 1.—Location of Stone County in Missouri.

## General Nature of the County

This section describes climate, history and development, and physiography, relief, and drainage.

### Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Galena in the period 1961 to 1990. Table 2 shows probable dates of the first

freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 35 degrees F and the average daily minimum temperature is 23 degrees. The lowest temperature on record, which occurred on January 19, 1984, is -21 degrees. In summer, the average temperature is 75 degrees and

the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred on July 30, 1980, is 106 degrees; however, temperatures above 110 degrees were recorded around the region in the 1930's and again in 1954.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 43 inches. Of this, 28 inches, or 65 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7 inches on May 15, 1956. Thunderstorms occur on about 52 days each year, and most occur between May and August.

The average seasonal snowfall is about 12 inches. The greatest snow depth at any one time during the period of record was 22 inches recorded on March 17, 1970. On the average, around 5 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 66 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south for most of the year, except from the northwest during February and March. Average windspeed is highest, between 11 and 12 miles per hour, from November to April.

## History and Development

J. Scott Eversoll, soil scientist, Missouri Department of Natural Resources, helped prepare this section.

Stone County was established February 10, 1851, by the 16th General Assembly of Missouri (Stone County Historical Society, 1989). Jamestown was named the county seat, and sometime around 1853 the town's name was changed to Galena. Stone County was named in honor of William Stone, who was born in Maryland and lived in Virginia and Tennessee before moving to Missouri in 1833. He served in The War of 1812 and fought in the battle of New Orleans. William Stone owned a store and built cotton, grist, and powder mills in what is now Stone County. He lived just south of what is now Galena and was a judge in the county court of Taney County. William Stone died in 1849.

The first inhabitants of the area were the Ozark Bluff Dwellers Indians at about 7,000 B.C. The Ozark Indians were a Siouan tribe that was agriculturally minded, but also hunted small game, deer, and buffalo. The Delaware Indians migrated to the area from about 1800 to 1808 and remained until the government evacuated them to the Kansas territory in 1830. The Delaware Indians returned annually to hunt and fish until 1836 when the military forced them out permanently.

The French claimed the area up until 1762 and then again from 1800 to 1808. The United States government bought the Ozark area as part of the Louisiana Purchase in 1808.

James Yochum was thought to be the first white settler of the area. He arrived in about 1790 and was a trapper and trader. He was the namesake of the "Yochum Dollar," which was a silver dollar about the size and shape of an American dollar, but had more silver. James Yochum lived for several years in a Delaware Indian village located where Cape Fair is today. He and his Indian wife moved in 1820 to a spring near where the town of Branson West is now located. In the early 1830's, the first of the permanent white settlers arrived from Kentucky and Tennessee. They were farmers and religious fundamentalists. During the Civil War, immigration halted and then resumed under the Homestead Law of 1862.

In a proclamation on April 30, 1818, President Monroe declared that the government would sell land in Missouri only after the land was surveyed. The area where the Finley Creek and James River intersect was first surveyed in 1838. The rest of the Stone County area was surveyed between 1846 to 1849.

The Civil War started early for the Ozarks. The 1850's brought trouble with the antislavery state of Kansas (Missouri was a free-soil state). Religious groups from Massachusetts added fuel to the fire by sending weapons and ammunition to the area. The Battle of Wilson Creek was fought in Christian County, but many of the initial skirmishes were fought in Stone County. Most of the local politicians supported the union and sent their sons to fight the confederacy. Bushwhackers from Arkansas also raided southern Missouri for many years, which lead to the formation of a vigilante group called the Bald Knobbers. The Bald Knobbers were formed in the 1880's and are the subject of many local legends, but were disbanded peacefully when a militia was formed to bring law and order to southwestern Missouri.

From the 1880's to the early 1900's, people from all over the country came to the northern part of the county to drink the water from a spring. Fountain T. Welch claimed the spring healed his wounded hand and opened the spring to the public. Many people claimed

that they were cured of their ailments after drinking or soaking in the water. The town of Ponce de Leon was settled in the area of the "Fountain of Youth" (fig. 2).

The number of farms in Stone County gradually increased from 1880 to about 1935, but since that time the number has gradually decreased. The size of the farms has also gradually increased, and the farms of today are slightly twice the size, on average, of the farms of the 1880's.

Livestock production has always been important to Stone County. The total population of cattle steadily grew until the mid-1970's. Milk cows have had a relatively stable population since the 1880's, with the exception of the late 1940's to the early 1950's when the population went up. Hogs have had a gradual decline in population since the turn of the century to about one-fifth of that population. The sheep population remained relatively stable from 1900 to 1960, with the exception of World War I and World War II when there was a dramatic increase. Since 1970, the number of sheep has been fairly small. The sheep in Stone County have been used chiefly for wool production.

Corn and wheat productions have decreased drastically since the 1890's, becoming very minor crops in Stone County in the 1980's. Grain sorghum was also grown in the 20th century. The amount of acres dedicated to growing grain sorghum has fluctuated over the years. Hay production has increased at a steady rate since the 1870's, with the exception of the 1930's. Hay is the most important crop in the county.

Tomatoes were an important industry in the first half of the 20th century. The first tomato cannery started in Reeds Spring about 1900 and was a small operation. The peak of the canning operation was in 1925 with about 38 canneries in Stone County. It took about 2,500 farmers to produce the tomatoes for the canneries and approximately another 2,500 employees to run them. The tomato canneries eventually all folded in the 1950's due to a changing social climate that rejected the seasonal employment for year-round employment.

The building of Table Rock Dam in 1958 brought in a new era for Stone County. Tourism is now one of the more important industries in southwestern Missouri. Outdoor recreation and country music are making Stone County famous nationally.

## **Physiography, Relief, and Drainage**

The survey area is in an advanced stage of the present geological erosion cycle. Surface features are mainly the result of the overall Ozark uplift and subsequent geological water erosion. The northern half of the county is mainly on the Springfield Plateau. The deeply entrenched streams expose the geology of the

Salem Plateau. In the southern half of the county, the Springfield Plateau gradually reduces to remnants at a higher elevation, with the exception of the southernmost part of the county. The Lampe Fault in the southwest part of the county separates an area dominated by the Salem Plateau with monadnocks of the Springfield Plateau to the west with an area east of the fault that is mainly the Springfield Plateau.

The major portion of the county is extremely dissected with narrow ridges and moderately sloping to very steep topography. The Hailey-Rueter association, with the adjacent area below, has the most relief. The Noark-Rueter-Scholten and Sonsac-Moko-Rock outcrop associations have areas of considerable relief. The Tonti-Scholten and Gasconade-Alred associations have less relief. The Tonti-Scholten association consists of areas with broad ridges and gently to moderately sloping topography in the northeast part of the county and an area around Blueye in the southern part of the county. The Gasconade-Alred association consists of areas in the southwest part of the county and low ridges near Table Rock Lake with moderately broad ridge tops and moderately sloping to steep topography that is bedrock controlled. The Pinerun-Britwater-Hootentown association mainly consists of bottomlands and terraces along James River, Finley River, Crane Creek, Spring Creek, Flat Creek, and their tributaries. Elevation in Stone County ranges from 880 feet to 1,465 feet, giving a total of 585 feet of relief. The highest point is Pilot Knob Mountain in the southwest part of the county, and the lowest point is in the southeast part of the county where the west fork of Roark Creek leaves the county.

All of the county's streams are in the White River drainage basin and flow into Taneycomo Lake or Table Rock Lake, which now covers White River in Stone County. White River originates in Arkansas and enters Stone County on the southwest side from Barry County and exits in the southeast portion of the county into Taney County.

There are four main streams, all of which basically flow southward. The James and Finley Rivers originate in Webster County and enter the northeast corner of the county. Finley River flows into James River less than three miles after entering the county. James River drains the major portion of the northern half of the county before flowing into Table Rock Lake. Flat Creek originates in Barry County, enters Stone County from the west, and travels a short distance before entering Table Rock Lake. Crane Creek originates in the northwest part of the county and drains a small part of Barry County and the northwest part of Stone County before flowing into James River.



**Figure 2.—The “Fountain of Youth,” a spring near the town of Ponce de Leon in an area of Rueter-Gasconade-Rock outcrop complex, 35 to 60 percent slopes, was once thought to have healing powers.**

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to

taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Table 1.--Temperature and Precipitation  
(Recorded in the period 1961-90 at Galena, Missouri)

Month	Temperature						Precipitation					
				2 years in 10 will have--		Average	2 years in 10 will have--			Average		
	Average	Average	Average			number of	Average			number of	Average	
	daily	daily	daily	Maximum	Minimum	growing		Less	More	days with	snowfall	
	maximum	minimum		temperature	temperature	degree		than--	than--	0.10 inch		
			higher than--	lower than--	days*					or more		
	°F	°F	°F	°F	°F	Units	In	In	In		In	
January-----	45.1	20.6	32.8	71	-9	7	1.87	0.60	3.03	3	3.2	
February-----	50.1	24.1	37.1	75	-4	17	2.14	0.80	3.26	4	2.1	
March-----	60.7	33.6	47.1	84	10	95	3.98	2.03	5.68	6	1.6	
April-----	72.1	43.1	57.6	89	22	258	4.26	2.26	6.01	6	0.1	
May-----	77.3	51.4	64.4	89	33	446	4.40	2.39	6.17	6	0.0	
June-----	84.5	60.0	72.2	94	42	660	4.58	2.49	6.43	6	0.0	
July-----	89.8	64.7	77.3	101	50	845	3.04	1.55	4.33	5	0.0	
August-----	88.7	63.3	76.0	101	47	801	3.54	1.28	5.42	5	0.0	
September---	81.3	56.9	69.1	95	35	572	4.41	2.19	6.34	6	0.0	
October-----	71.6	43.6	57.6	89	23	260	3.57	1.68	5.44	4	0.0	
November-----	59.8	33.9	46.9	81	9	83	3.90	1.86	5.66	5	0.6	
December-----	48.4	24.1	36.2	74	-4	17	3.22	1.33	4.81	4	1.4	
Yearly: Average	69.1	43.3	56.2	---	---	---	---	---	---	---	---	
Extreme	106	-21	---	102	-12	---	---	---	---	---	---	
Total-----	---	---	---	---	---	4,061	42.90	29.36	50.54	60	8.9	

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall  
(Recorded in the period 1961-90 at Galena, Missouri)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 12	April 18	May 3
2 years in 10 later than--	April 7	April 14	April 20
5 years in 10 later than--	March 29	April 7	April 20
First freezing temperature in fall:			
1 year in 10 earlier than--	October 21	October 10	September 30
2 years in 10 earlier than--	October 27	October 16	October 4
5 years in 10 earlier than--	November 8	October 27	October 12

Table 3.--Growing Season  
(Recorded in the period 1961-90 at Galena, Missouri)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	195	180	155
8 years in 10	205	188	162
5 years in 10	223	203	174
2 years in 10	241	217	187
1 year in 10	251	225	193



# General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure.

The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

## Soil Descriptions

### 1. Tonti-Scholten Association

#### *Setting*

*Landform:* Interfluvium (fig. 3)

*Slope range:* 1 to 8 percent

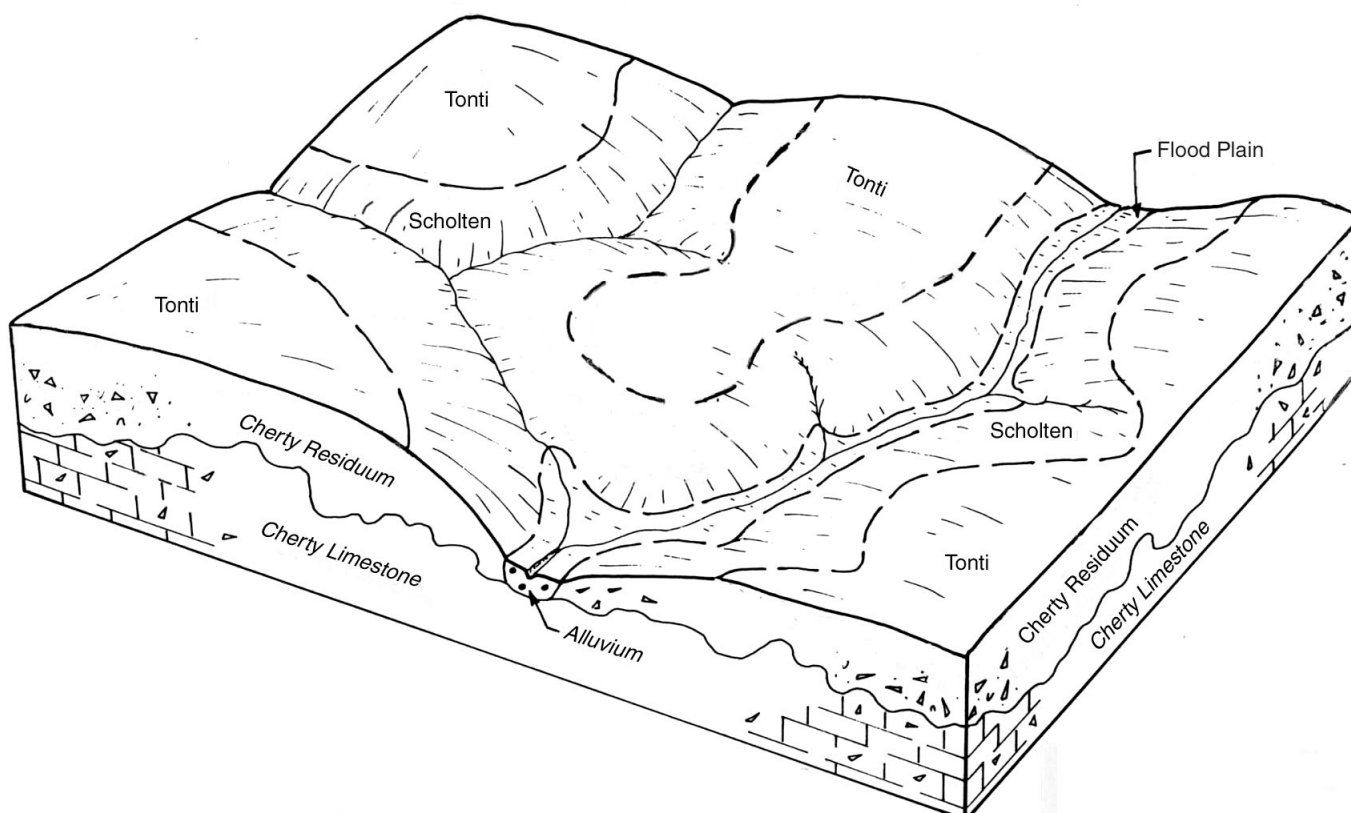


Figure 3.—Typical pattern of soils and parent material in the Tonti-Scholten association.

### Composition

*Extent of the association:*

2 percent of the survey area

*Extent of the components in the association:*

Tonti and similar soils—60 percent

Scholten and similar soils—25 percent

### Minor components

- Horneybuck soils on head slopes, depressions, and saddles on ridges
- Rueter soils on backslopes

### Landscape

#### Tonti

*Position on the landform:* Summit or shoulder

*Parent material:* Loamy colluvium over slope alluvium over valley fill or residuum weathered from cherty limestone

*Slope:* 1 to 8 percent

#### Scholten

*Position on the landform:* Summit or shoulder

*Parent material:* Gravelly colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope:* 3 to 8 percent

## 2. Noark-Rueter-Scholten Association

### Setting

*Landform:* Interfluvium and hillside (fig. 4)

*Slope range:* 3 to 35 percent

### Composition

*Extent of the association:*

18 percent of the survey area

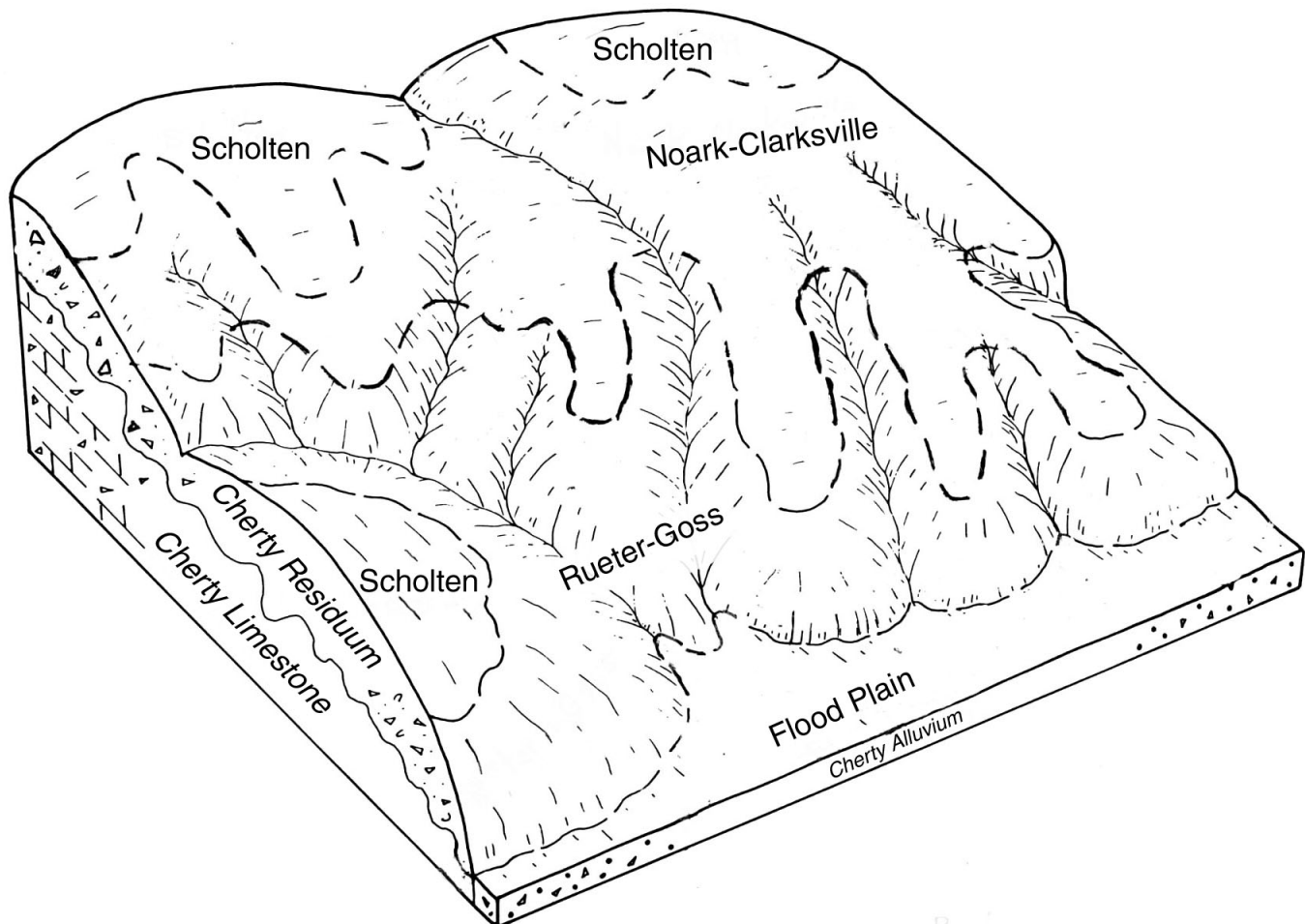


Figure 4.—Typical pattern of soils and parent material in the Noark-Rueter-Scholten association.

*Extent of the components in the association:*

Noark and similar soils—35 percent

Rueter and similar soils—35 percent

Scholten and similar soils—30 percent

**Landscape****Noark***Position on the landform:* Summit or shoulder*Parent material:* Gravelly colluvium over clayey residuum weathered from limestone*Slope:* 3 to 8 percent**Rueter***Position on the landform:* Backslope*Parent material:* Gravelly colluvium over residuum weathered from cherty limestone*Slope:* 8 to 35 percent**Scholten***Position on the landform:* Summit*Parent material:* Gravelly colluvium over slope alluvium over residuum weathered from cherty limestone*Slope:* 3 to 8 percent**3. Hailey-Rueter Association****Setting***Landform:* Interfluvium and hillside (fig. 5)*Slope range:* 3 to 60 percent**Composition***Extent of the association:*

40 percent of the survey area

*Extent of the components in the association:*

Hailey and similar soils—40 percent

Rueter and similar soils—40 percent

**Minor components**

- Gasconade and Ocie soils on backslopes
- Rock outcrop on backslopes
- Scholten soils on summits

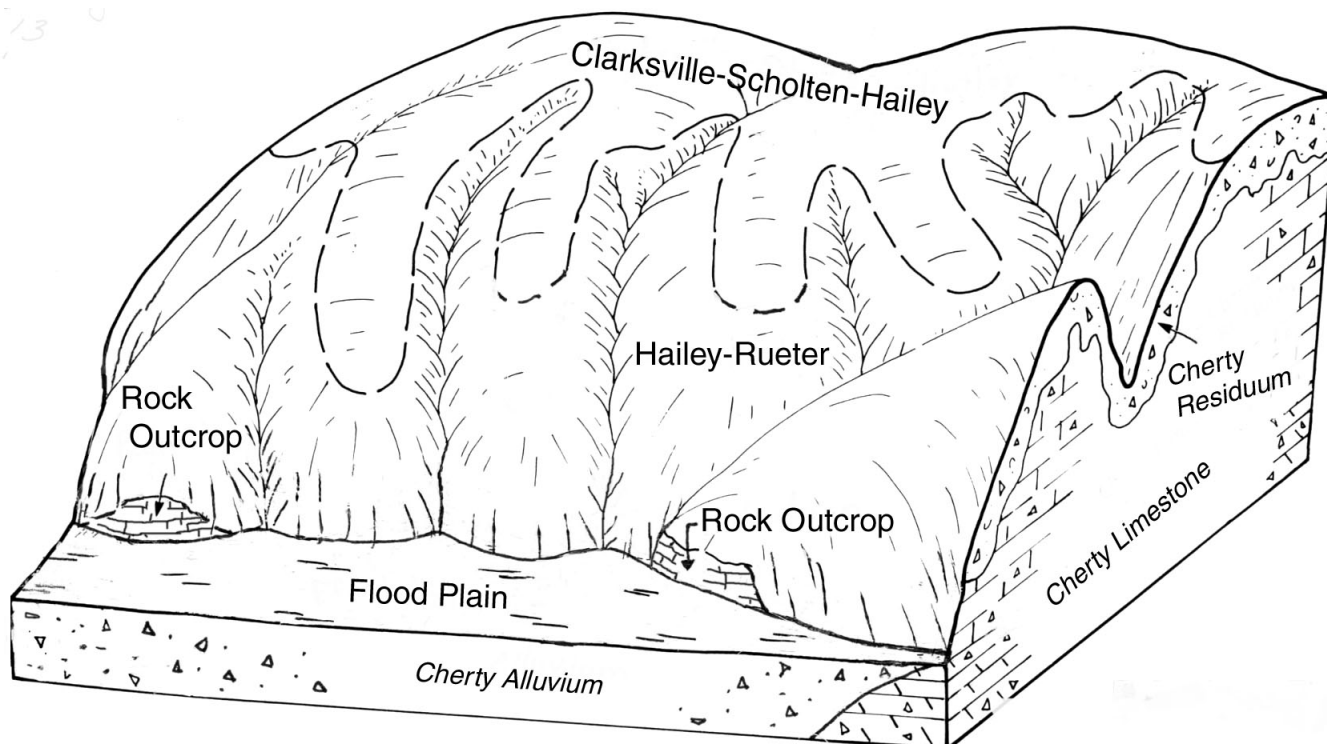


Figure 5.—Typical pattern of soils and parent material in the Hailey-Rueter association.

### ***Landscape***

#### **Hailey**

*Position on the landform:* Backslope or summit

*Parent material:* Gravelly colluvium over residuum weathered from cherty limestone

*Slope:* 3 to 60 percent

#### **Rueter**

*Position on the landform:* Backslope

*Parent material:* Gravelly colluvium over residuum weathered from cherty limestone

*Slope:* 15 to 60 percent

*Extent of the components in the association:*

Alred and similar soils—45 percent

Gasconade and similar soils—45 percent

#### **Minor components**

- Cedargap soils on flood plains
- Pomme soils on summits
- Rock outcrop on summits, shoulders, and backslopes

### ***Landscape***

#### **Gasconade**

*Position on the landform:* Summit, shoulder, or backslope

*Parent material:* Clayey residuum weathered from cherty limestone or dolostone

*Slope:* 3 to 35 percent

#### **Alred**

*Position on the landform:* Summit or backslope

*Parent material:* Gravelly colluvium over residuum weathered from limestone or dolostone

*Slope:* 3 to 15 percent

## **4. Gasconade-Alred Association**

### ***Setting***

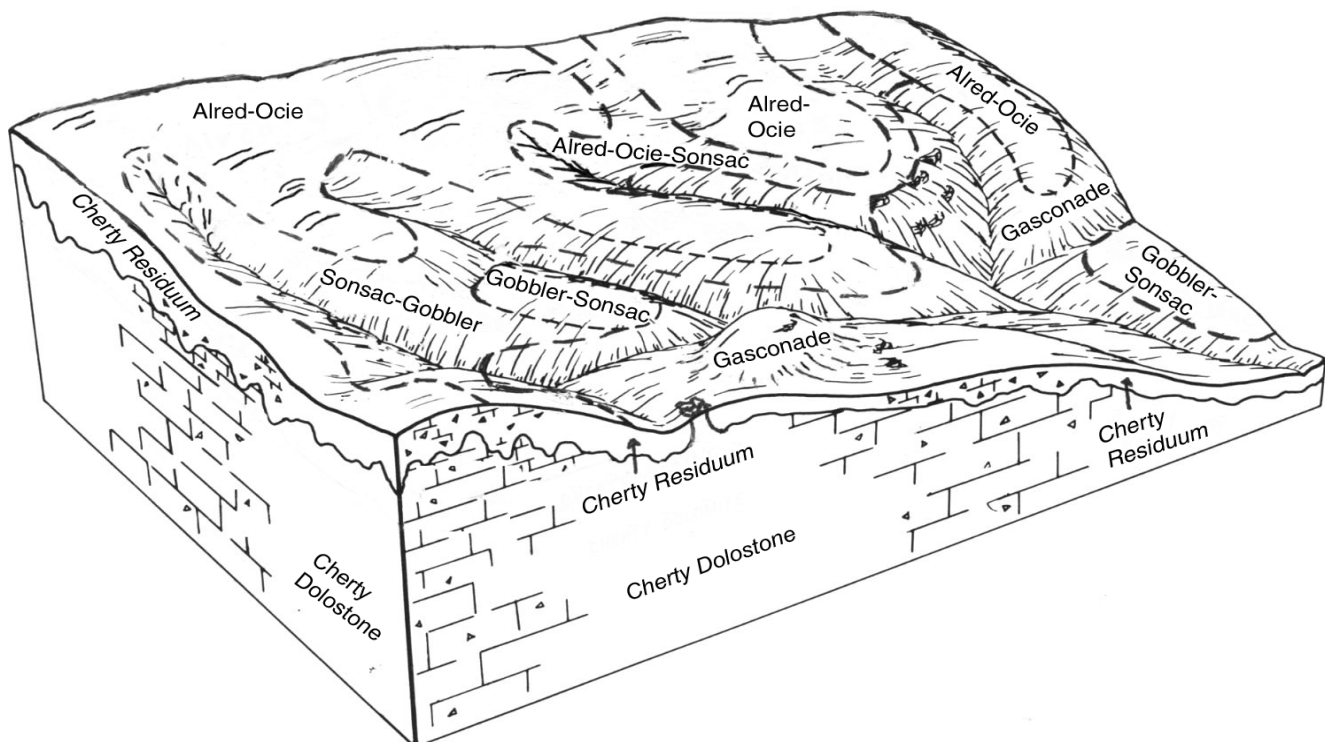
*Landform:* Interfluve, hillside, and structural bench (fig. 6)

*Slope range:* 3 to 35 percent

### ***Composition***

*Extent of the association:*

12 percent of the survey area



**Figure 6.—Typical pattern of soils and parent material in the Gasconade-Alred association.**

## 5. Sonsac-Moko-Rock outcrop Association

### **Setting**

*Landform:* Hillside and structural bench (fig. 7)

*Slope range:* 3 to 90 percent

### **Composition**

*Extent of the association:*

22 percent of the survey area

*Extent of the components in the association:*

Sonsac and similar soils—45 percent

Moko and similar soils—30 percent

Rock outcrop—10 percent

### **Minor components**

- Cedargap soils on flood plains
- Mano soils on summits
- Rueter soils on backslopes

### **Landscape**

#### **Sonsac**

*Position on the landform:* Summit or backslope

*Parent material:* Colluvium over residuum weathered from cherty limestone or dolostone

*Slope:* 3 to 70 percent

#### **Moko**

*Position on the landform:* Summit or backslope

*Parent material:* Residuum weathered from cherty limestone or dolostone

*Slope:* 3 to 90 percent

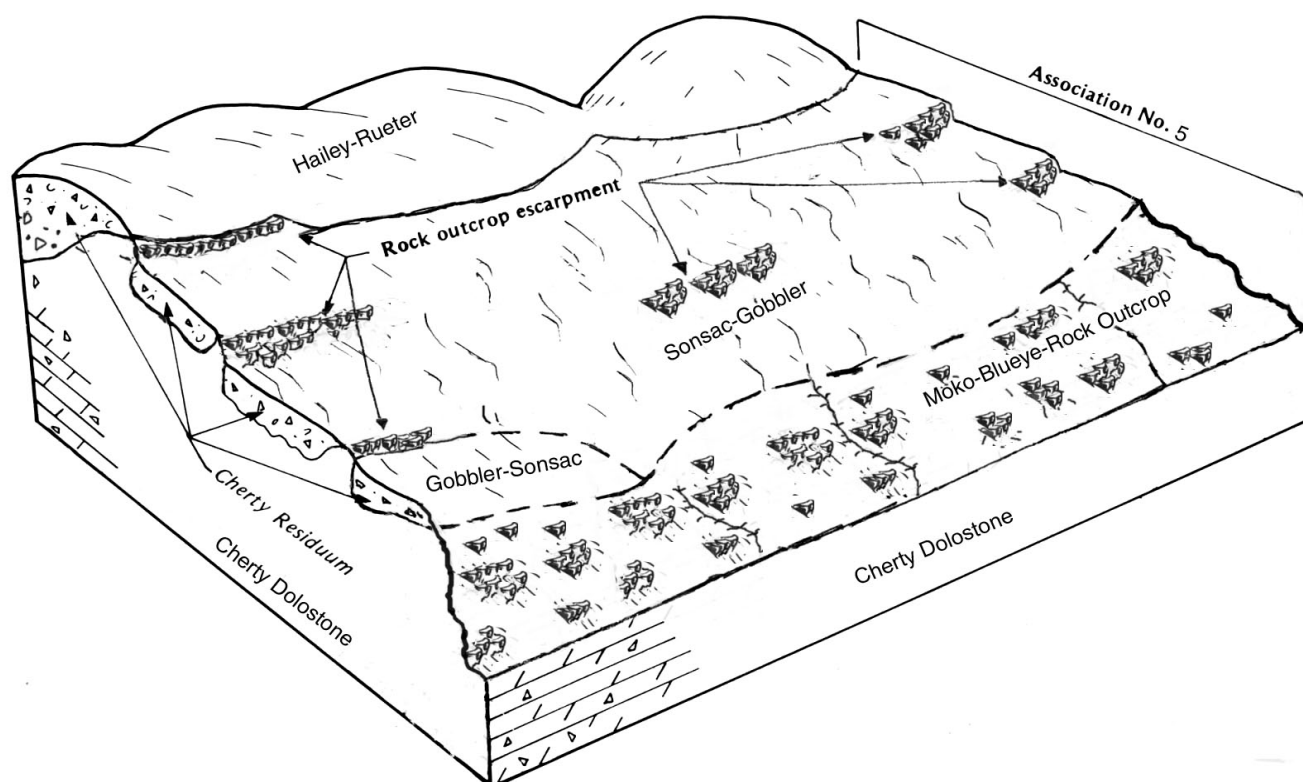


Figure 7.—Typical pattern of soils and parent material in the Sonsac-Moko-Rock outcrop association.

## 6. Pinerun-Britwater-Hootentown Association

### Setting

*Landform:* Flood-plain step and stream terrace (fig. 8)

*Slope range:* 0 to 8 percent

### Composition

*Extent of the association:*  
6 percent of the survey area

*Extent of the components in the association:*  
Pinerun and similar soils—50 percent  
Britwater and similar soils—25 percent  
Hootentown and similar soils—15 percent

### Minor components

- Hepler, Horsecreek, and Jamesfin soils on flood plains

### Landscape

#### Pinerun

*Position on the landform:* Flood-plain step

*Parent material:* Gravelly alluvium derived from cherty limestone

*Slope:* 0 to 3 percent

#### Britwater

*Position on the landform:* Summit of stream terrace

*Parent material:* Alluvium derived from cherty limestone

*Slope:* 3 to 8 percent

#### Hootentown

*Position on the landform:* Toeslope of stream terrace

*Parent material:* Silty alluvium

*Slope:* 0 to 3 percent

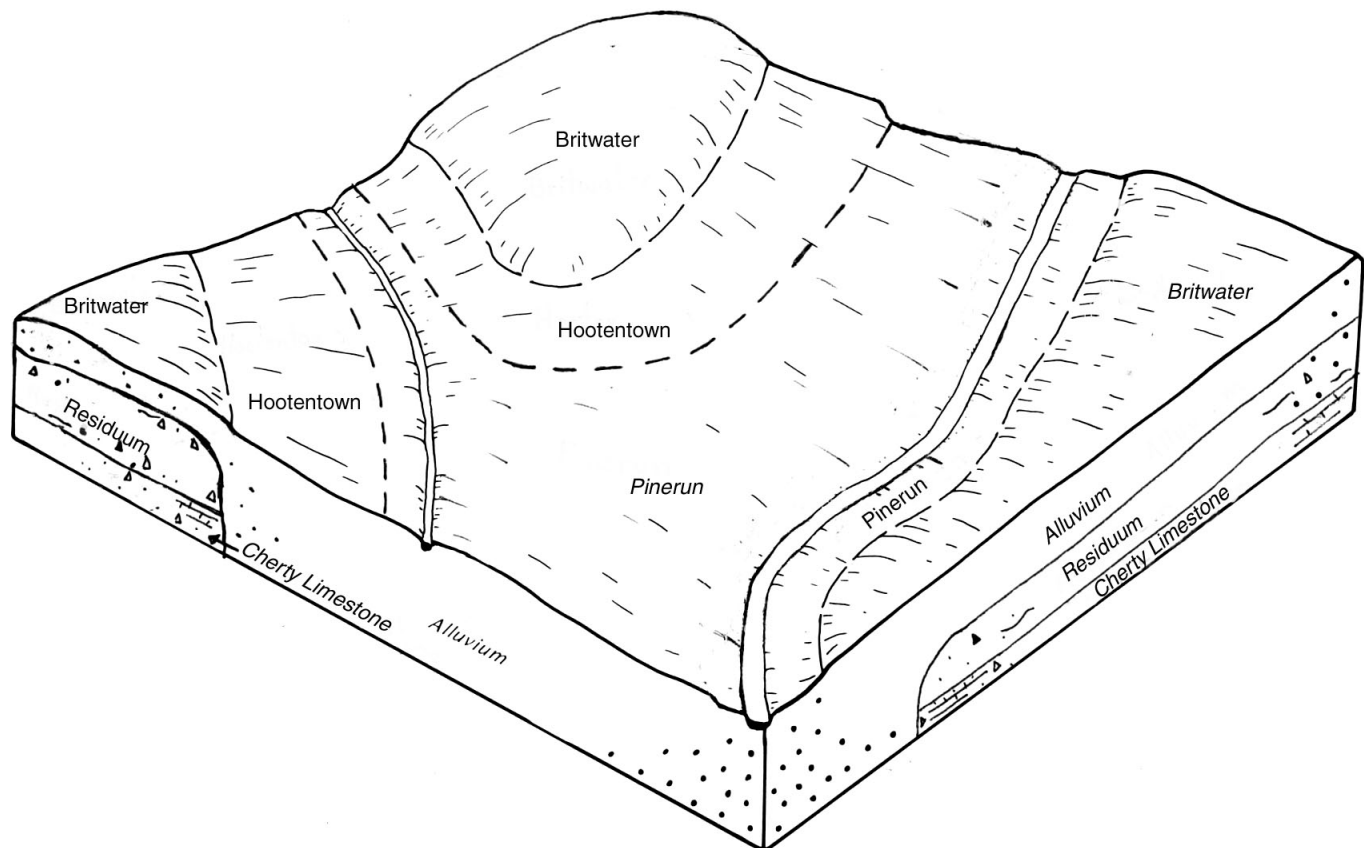


Figure 8.—Typical pattern of soils and parent material in the Pinerun-Britwater-Hootentown association.

# Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Waben very gravelly silt loam, 3 to 8 percent slopes, is a phase of the Waben series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Sonsac-Gobbler complex, 15 to 20 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management.

The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Horsecreek and Jamesfin soils, 0 to 2 percent slopes, occasionally flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarries, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## Soil Descriptions

### 70030—Noark-Clarksville complex, 3 to 8 percent slopes

#### *Setting*

*Landform:* Interfluvium on plateau

*Position on the landform:* Summit and shoulder

*Parent material:* Gravelly colluvium derived from cherty limestone over gravelly residuum weathered from cherty limestone

*Slope shape:* Convex

#### *Composition*

Noark and similar soils—56 percent

Clarksville and similar soils—29 percent

Minor components—15 percent

Nixa—shoulder

Scholten—shoulder

Tonti—summit

#### *Soil Properties and Qualities*

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium

*Flooding:* None

*Water table:* None

*Drainage class:* Noark—well drained;

Clarksville—somewhat excessively drained

#### *Typical Profile*

#### **Noark**

A—0 to 3 inches; very gravelly silt loam

E—3 to 8 inches; very gravelly silt loam

BE—8 to 16 inches; very gravelly silt loam

2Bt—16 to 60 inches; very gravelly clay

#### **Clarksville**

A—0 to 9 inches; very gravelly silt

Bt—9 to 33 inches; very gravelly silty clay loam

2Bt—33 to 60 inches; very gravelly clay

### 70031—Hailey-Rueter complex, 15 to 35 percent slopes, very rocky

#### *Setting*

*Landform:* Hillside on plateau

*Position on the landform:* Backslope

*Parent material:* Hailey—gravelly colluvium derived from cherty limestone; Rueter—gravelly colluvium over clayey residuum weathered from cherty limestone

*Slope shape:* Convex

#### *Composition*

Hailey and similar soils—55 percent

Rueter and similar soils—35 percent

Minor components—10 percent

Ocie—backslope

Rock outcrop

#### *Soil Properties and Qualities*

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Very high

*Percent area covered by surface coarse fragments:* 0 to 10 coarse subrounded gravel

*Flooding:* None

*Water table:* None

*Drainage class:* Hailey—excessively drained;

Rueter—somewhat excessively drained

#### *Typical Profile*

#### **Hailey**

A—0 to 10 inches; extremely gravelly silt

Bw—10 to 60 inches; extremely cobbly silt loam

#### **Rueter**

A—0 to 2 inches; very gravelly silt loam

E—2 to 8 inches; very gravelly silt

Bt1—8 to 48 inches; extremely gravelly silt loam

2Bt2—48 to 71 inches; extremely gravelly clay

### 70032—Tonti silt, 1 to 3 percent slopes

#### *Setting*

*Landform:* Interfluvium on plateau

*Position on the landform:* Summit

*Parent material:* Fine-loamy colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope shape:* Linear

### **Composition**

Tonti and similar soils—86 percent

Minor components—14 percent

Nixa—interfluvial shoulder

Scholten—interfluvial summit

### **Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium

*Depth to restrictive feature (fragipan):* 18 to 30 inches

*Flooding:* None

*Water table:* 18 to 30 inches

*Drainage class:* Moderately well drained

### **Typical Profile**

Ap—0 to 10 inches; gravelly silt

Bt—10 to 27 inches; gravelly silt loam

2Btx—27 to 38 inches; extremely gravelly silt loam

3Bt—38 to 60 inches; extremely gravelly clay

## **70033—Moko-Rock outcrop complex, 8 to 15 percent slopes**

### **Setting**

*Landform:* Hillside on plateau

*Position on the landform:* Shoulder

*Parent material:* Moko-loamy residuum weathered from cherty limestone and/or loamy residuum weathered from dolostone; Rock outcrop—no data

*Slope shape:* Linear

### **Composition**

Moko and similar soils—68 percent

Rock outcrop—19 percent

Minor components—13 percent

Blueye—backslope

### **Soil Properties and Qualities**

*Depth to bedrock:* Moko—very shallow and shallow (4 to 20 inches); Rock outcrop—no data

*Runoff:* Moko—high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic)):* Moko—4 to 20 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Moko—well drained; Rock outcrop—no data

### **Typical Profile**

#### **Moko**

A—0 to 5 inches; very channery silty clay loam

R—5 to 80 inches; unweathered bedrock

## **70034—Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes**

### **Setting**

*Landform:* Hillside on plateau (fig. 9)

*Position on the landform:* Backslope

*Parent material:* Moko—loamy residuum weathered from dolostone and/or loamy residuum weathered from cherty limestone; Blueye—gravelly colluvium over clayey residuum weathered from dolostone; Rock outcrop—no data

*Slope shape:* Moko—linear; Blueye—convex; Rock outcrop—no data

### **Composition**

Moko and similar soils—40 percent

Blueye and similar soils—35 percent

Rock outcrop—20 percent

Minor components—5 percent

Hercules—flood plain

### **Soil Properties and Qualities**

*Depth to bedrock:* Moko—very shallow and shallow (4 to 20 inches); Blueye—moderately deep (20 to 40 inches); Rock outcrop—no data

*Runoff:* Moko and Blueye—very high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic)):* Moko—4 to 20 inches; Blueye—20 to 40 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Moko and Blueye—well drained; Rock outcrop—no data

### **Typical Profile**

#### **Moko**

A1—0 to 7 inches; very channery clay loam

A2—7 to 14 inches; very channery clay loam

R—14 to 80 inches; unweathered bedrock

#### **Blueye**

A—0 to 6 inches; very gravelly silty clay loam

AB—6 to 10 inches; gravelly silty clay loam

2Bt—10 to 30 inches; silty clay

2R—30 to 80 inches; unweathered bedrock



Figure 9.—Typical landscape in an area of Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes, above an area of Gasconade-Rock outcrop complex, 50 to 90 percent slopes.

### **70035—Sonsac-Gobbler complex, 15 to 20 percent slopes**

#### ***Setting***

*Landform:* Hillside on plateau

*Position on the landform:* Backslope

*Parent material:* Sonsac—gravelly colluvium over residuum weathered from cherty limestone;  
Gobbler—gravelly colluvium over gravelly residuum weathered from limestone or dolostone

*Slope shape:* Convex

#### ***Composition***

Sonsac and similar soils—54 percent

Gobbler and similar soils—36 percent

Minor components—10 percent

Gasconade—backslope

Mano—backslope

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Sonsac—moderately deep (20 to 40 inches); Gobbler—deep (40 to 60 inches)

*Runoff:* Very high

*Depth to restrictive feature (bedrock (lithic):*

Sonsac—20 to 40 inches; Gobbler—40 to 60 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

### **Typical Profile**

#### **Sonsac**

A—0 to 2 inches; cobbly silt loam

E—2 to 6 inches; very gravelly silt loam

Bt—6 to 17 inches; very gravelly silt loam

2Bt—17 to 38 inches; very gravelly clay

2R—38 to 80 inches; unweathered bedrock

#### **Gobbler**

A—0 to 3 inches; very gravelly silt loam

E—3 to 9 inches; very gravelly silt loam

Bt—9 to 16 inches; very gravelly silt loam

2Bt—16 to 46 inches; cobbly clay

2R—46 to 80 inches; unweathered bedrock

### **70036—Sonsac-Gobbler complex, 20 to 35 percent slopes, very stony**

#### **Setting**

*Landform:* Hillside on plateau

*Position on the landform:* Backslope

*Parent material:* Sonsac—gravelly colluvium over  
residuum weathered from cherty limestone;

Gobbler—gravelly colluvium over gravelly residuum  
weathered from limestone or dolostone

*Slope shape:* Convex

#### **Composition**

Sonsac and similar soils—60 percent

Gobbler and similar soils—25 percent

Minor components—15 percent

Gasconade—backslope

Rueter—backslope

#### **Soil Properties and Qualities**

*Depth to bedrock:* Sonsac—moderately deep (20 to 40  
inches); Gobbler—deep (40 to 60 inches)

*Runoff:* Very high

*Percent area covered by surface coarse fragments:*

0.10 to 3 coarse subrounded stones

*Depth to restrictive feature (bedrock (lithic):*

Sonsac—20 to 40 inches; Gobbler—40 to 60 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

### **Typical Profile**

#### **Sonsac**

A—0 to 3 inches; very gravelly silt loam

Bt—3 to 20 inches; very gravelly silt loam

2Bt—20 to 32 inches; very gravelly clay

2R—32 to 80 inches; unweathered bedrock

#### **Gobbler**

A—0 to 5 inches; extremely gravelly silt loam

E—5 to 15 inches; very gravelly silt loam

Bt—15 to 21 inches; very gravelly silt loam

2Bt—21 to 47 inches; very gravelly clay

2R—47 to 80 inches; unweathered bedrock

### **70037—Sonsac-Rueter complex, 35 to 70 percent slopes, very rocky**

#### **Setting**

*Landform:* Hillside on plateau

*Position on the landform:* Backslope

*Parent material:* Sonsac—gravelly colluvium over  
residuum weathered from cherty limestone;

Rueter—gravelly colluvium derived from dolostone  
over clayey residuum weathered from dolostone

*Slope shape:* Convex

#### **Composition**

Sonsac and similar soils—53 percent

Rueter and similar soils—32 percent

Minor components—15 percent

Gasconade—backslope

Rock outcrop

#### **Soil Properties and Qualities**

*Depth to bedrock:* Sonsac—moderately deep (20 to 40  
inches); Rueter—very deep (more than 60 inches)

*Runoff:* Very high

*Depth to restrictive feature (bedrock (lithic):*

Sonsac—20 to 40 inches; Rueter—none

*Flooding:* None

*Water table:* None

*Drainage class:* Sonsac—well drained;

Rueter—somewhat excessively drained

### **Typical Profile**

#### **Sonsac**

A—0 to 3 inches; very gravelly silt loam

E—3 to 15 inches; very gravelly silt loam

2Bt—15 to 36 inches; very gravelly clay

2R—36 to 80 inches; unweathered bedrock

**Rueter**

A—0 to 5 inches; extremely gravelly silt loam  
 BE—5 to 12 inches; extremely gravelly silt loam  
 Bt—12 to 35 inches; extremely gravelly silt loam  
 2Bt—35 to 60 inches; gravelly clay

### **70038—Moko-Rock outcrop complex, 3 to 8 percent slopes, very stony**

**Setting**

*Landform:* Ridge on plateau  
*Position on the landform:* Summit  
*Parent material:* Moko—loamy colluvium or residuum weathered from dolostone or cherty limestone;  
 Rock outcrop—no data  
*Slope shape:* Moko—linear; Rock outcrop—no data

**Composition**

Moko and similar soils—58 percent  
 Rock outcrop—28 percent  
 Minor components—14 percent  
 Blueye—interfluve shoulder

**Soil Properties and Qualities**

*Depth to bedrock:* Moko—very shallow and shallow (4 to 20 inches); Rock outcrop—no data  
*Runoff:* Moko—high; Rock outcrop—no data  
*Percent area covered by surface coarse fragments:*  
 Moko—0.10 to 3 subangular stones; Rock outcrop—no data  
*Depth to restrictive feature (bedrock (lithic):* Moko—4 to 20 inches; Rock outcrop—no data  
*Flooding:* None  
*Water table:* None  
*Drainage class:* Moko—well drained; Rock outcrop—no data

**Typical Profile****Moko**

A1—0 to 5 inches; very flaggy silty clay loam  
 A2—5 to 10 inches; extremely flaggy silty clay loam  
 R—10 to 80 inches; unweathered bedrock

### **70050—Rueter-Goss complex, 8 to 15 percent slopes, karst**

**Setting**

*Landform:* Hillside on sinkhole on plateau (fig. 10)  
*Position on the landform:* Backslope

*Parent material:* Rueter—gravelly colluvium over residuum weathered from cherty limestone;  
 Goss—gravelly colluvium over clayey residuum weathered from cherty limestone  
*Slope shape:* Convex

**Composition**

Rueter and similar soils—59 percent  
 Goss and similar soils—35 percent  
 Minor components—6 percent  
 Scholten—backslope

**Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* High  
*Flooding:* None  
*Water table:* None  
*Drainage class:* Somewhat excessively drained

**Typical Profile****Rueter**

A—0 to 7 inches; very gravelly silt loam  
 BE—7 to 11 inches; very gravelly silt loam  
 Bt—11 to 28 inches; extremely gravelly silt loam  
 2Bt—28 to 60 inches; very cobbly clay

**Goss**

A—0 to 6 inches; gravelly silt loam  
 BE—6 to 18 inches; very gravelly silt loam  
 2Bt—18 to 60 inches; very gravelly clay

### **70051—Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, karst**

**Setting**

*Landform:* Hillside on sinkhole on plateau  
*Parent material:* Hailey—colluvium derived from cherty limestone; Rueter—gravelly colluvium over clayey residuum weathered from cherty limestone  
*Slope shape:* Convex

**Composition**

Hailey and similar soils—55 percent  
 Rueter and similar soils—35 percent  
 Minor components—10 percent  
 Ocie—backslope  
 Rock outcrop

**Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Very high



**Figure 10.—Typical landscape in an area of Rueter-Goss complex, 8 to 15 percent slopes.**

*Percent area covered by surface coarse fragments:*  
Hailey—none; Rueter—0 to 10 coarse subangular gravel

*Flooding:* None

*Water table:* None

*Drainage class:* Hailey—excessively drained;  
Rueter—somewhat excessively drained

### ***Typical Profile***

#### **Hailey**

A—0 to 10 inches; extremely gravelly silt  
Bw—10 to 60 inches; extremely cobbly silt loam

#### **Rueter**

A—0 to 2 inches; very gravelly silt loam  
E—2 to 8 inches; very gravelly silt  
Bt1—8 to 48 inches; extremely gravelly silt loam  
2Bt2—48 to 60 inches; extremely gravelly clay

### **71252—Britwater gravelly silt loam, 3 to 8 percent slopes**

#### ***Setting***

*Landform:* Terrace on plateau

*Position on the landform:* Toeslope

*Parent material:* Alluvium derived from cherty limestone

*Slope shape:* Convex

#### ***Composition***

Britwater and similar soils—81 percent

Minor components—19 percent

Hootentown—tread on stream terrace

Waben—alluvial fan

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium  
*Flooding:* None  
*Water table:* None  
*Drainage class:* Well drained

### **Typical Profile**

A—0 to 10 inches; gravelly silt loam  
 Bt1—10 to 27 inches; gravelly silt loam  
 Bt2—27 to 50 inches; gravelly loam  
 Bt3—50 to 60 inches; gravelly silty clay loam

## **73070—Sowcoon silt loam, 0 to 3 percent slopes, frequently ponded**

### **Setting**

*Landform:* Sinkhole on plateau  
*Position on the landform:* Toeslope  
*Parent material:* Silty colluvium over loess and/or pedisegment  
*Slope shape:* Concave

### **Composition**

Sowcoon and similar soils—95 percent  
 Minor components—5 percent  
 Horneybuck—backslope

### **Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Negligible  
*Depth to restrictive feature (fragipan):* 40 to 60 inches  
*Flooding:* None  
*Ponding:* Brief  
*Water table:* 12 to 30 inches  
*Drainage class:* Somewhat poorly drained

### **Typical Profile**

A—0 to 9 inches; silt loam  
 Bt—9 to 28 inches; silt loam  
 2Btg—28 to 45 inches; silt loam  
 2Btgx—45 to 60 inches; silt loam

## **73113—Scholten gravelly silt loam, 3 to 8 percent slopes**

### **Setting**

*Landform:* Interfluvium on plateau  
*Position on the landform:* Summit  
*Parent material:* Gravelly colluvium over slope alluvium over residuum weathered from cherty limestone  
*Slope shape:* Convex

### **Composition**

Scholten and similar soils—88 percent  
 Minor components—12 percent  
 Clarksville—interfluvium shoulder  
 Noark—interfluvium shoulder

### **Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* High  
*Depth to restrictive feature (fragipan):* 18 to 27 inches  
*Flooding:* None  
*Water table:* 18 to 27 inches  
*Drainage class:* Moderately well drained

### **Typical Profile**

Ap—0 to 8 inches; very gravelly silt loam  
 Bt—8 to 19 inches; very gravelly silt loam  
 2Btx—19 to 34 inches; extremely gravelly silt loam  
 3Bt—34 to 60 inches; very gravelly clay

## **73114—Captina silt loam, 1 to 3 percent slopes**

### **Setting**

*Landform:* Interfluvium on plateau  
*Position on the landform:* Summit  
*Parent material:* Loess over slope alluvium over residuum weathered from cherty limestone  
*Slope shape:* Linear

### **Composition**

Captina and similar soils—95 percent  
 Minor components—5 percent  
 Scholten—interfluvium summit

### **Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Medium  
*Depth to restrictive feature (fragipan):* 16 to 30 inches  
*Flooding:* None  
*Water table:* 16 to 30 inches  
*Drainage class:* Moderately well drained

### **Typical Profile**

Ap—0 to 11 inches; silt loam  
 Bt—11 to 26 inches; silty clay loam  
 2Btx—26 to 53 inches; extremely gravelly silt loam  
 3Bt—53 to 60 inches; gravelly clay

### **73115—Horneybuck-Tonti complex, 3 to 8 percent slopes**

#### ***Setting***

*Landform:* Interfluvium on plateau

*Position on the landform:* Backslope and shoulder

*Parent material:* Horneybuck—fine-loamy colluvium over gravelly residuum weathered from cherty limestone or dolostone; Tonti—fine-loamy colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope shape:* Concave

#### ***Composition***

Horneybuck and similar soils—72 percent

Tonti and similar soils—21 percent

Minor components—7 percent

Scholten—shoulder

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Horneybuck—medium; Tonti—high

*Depth to restrictive feature (fragipan):*

Horneybuck—none; Tonti—18 to 30 inches

*Flooding:* None

*Water table:* Horneybuck—18 to 30 inches; Tonti—15 to 30 inches

*Drainage class:* Moderately well drained

#### ***Typical Profile***

#### **Horneybuck**

A—0 to 8 inches; silt loam

Bt—8 to 24 inches; gravelly silt loam

2B/E—24 to 40 inches; gravelly silt loam

2Bt—40 to 60 inches; very gravelly silty clay loam

#### **Tonti**

Ap—0 to 10 inches; silt

Bt—10 to 28 inches; gravelly silt loam

2Btx—28 to 57 inches; extremely gravelly silt loam

3Bt—57 to 60 inches; extremely gravelly clay

### **73116—Pomme silt loam, 2 to 5 percent slopes**

#### ***Setting***

*Landform:* Strath terrace on plateau

*Position on the landform:* Summit

*Parent material:* Loess over gravelly colluvium over clayey residuum

*Slope shape:* Convex

#### ***Composition***

Pomme and similar soils—90 percent

Minor components—10 percent

Viraton—summit

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

#### ***Typical Profile***

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 86 inches; extremely gravelly clay

### **73117—Clarksville-Scholten-Hailey complex, 3 to 15 percent slopes**

#### ***Setting***

*Landform:* Ridge on plateau

*Position on the landform:* Summit and shoulder

*Parent material:* Clarksville—gravelly colluvium derived from cherty limestone over gravelly residuum weathered from cherty limestone; Scholten—gravelly colluvium over slope alluvium over residuum weathered from cherty limestone; Hailey—gravelly colluvium derived from cherty limestone

*Slope shape:* Convex

#### ***Composition***

Clarksville and similar soils—45 percent

Scholten and similar soils—27 percent

Hailey and similar soils—23 percent

Minor components—5 percent

Goss—summit

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium

*Percent area covered by surface coarse fragments:* 0 to 10 subrounded cobbles

*Depth to restrictive feature (fragipan):* Clarksville and Hailey—none; Scholten—18 to 27 inches

*Flooding:* None

*Water table:* Clarksville and Hailey—none; Scholten—18 to 27 inches

*Drainage class:* Clarksville—somewhat excessively drained; Scholten—moderately well drained; Hailey—excessively drained

### ***Typical Profile***

#### **Clarksville**

A—0 to 9 inches; very gravelly silt loam  
Bt—9 to 32 inches; very gravelly silt loam  
2Bt—32 to 60 inches; extremely cobbly silty clay

#### **Scholten**

A—0 to 7 inches; very gravelly silt  
Bt—7 to 24 inches; very gravelly silt loam  
Btx—24 to 30 inches; extremely gravelly silty clay loam  
2Bt—30 to 60 inches; gravelly clay

#### **Hailey**

A—0 to 15 inches; very gravelly silt loam  
Bw—15 to 60 inches; extremely gravelly silt loam

### **73118—Rueter-Goss complex, 8 to 20 percent slopes**

#### ***Setting***

*Landform:* Hillside on plateau  
*Position on the landform:* Backslope  
*Parent material:* Rueter—gravelly colluvium over residuum weathered from cherty limestone;  
Goss—gravelly colluvium over clayey residuum weathered from cherty limestone  
*Slope shape:* Convex

#### ***Composition***

Rueter and similar soils—59 percent  
Goss and similar soils—35 percent  
Minor components—6 percent  
Scholten—backslope

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* High  
*Flooding:* None  
*Water table:* None  
*Drainage class:* Somewhat excessively drained

#### ***Typical Profile***

#### **Rueter**

A—0 to 7 inches; very gravelly silt loam  
BE—7 to 11 inches; very gravelly silt loam  
Bt—11 to 28 inches; extremely gravelly silt loam  
2Bt—28 to 60 inches; very cobbly clay

#### **Goss**

A—0 to 6 inches; gravelly silt loam  
BE—6 to 18 inches; very gravelly silt loam  
2Bt—18 to 60 inches; very gravelly clay

### **73119—Rueter-Hailey complex, 35 to 60 percent slopes, rocky**

#### ***Setting***

*Landform:* Hillside on plateau (fig. 11)  
*Position on the landform:* Backslope  
*Parent material:* Rueter—gravelly colluvium over residuum weathered from cherty limestone;  
Hailey—gravelly colluvium derived from cherty limestone  
*Slope shape:* Convex

#### ***Composition***

Rueter and similar soils—56 percent  
Hailey and similar soils—42 percent  
Minor components—2 percent  
Rock outcrop

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Very high  
*Percent area covered by surface coarse fragments:* 0 to 10 coarse subrounded gravel  
*Flooding:* None  
*Water table:* None  
*Drainage class:* Rueter—somewhat excessively drained;  
Hailey—excessively drained

#### ***Typical Profile***

#### **Rueter**

A—0 to 3 inches; extremely gravelly silt loam  
E—3 to 14 inches; very gravelly silt  
Bt—14 to 29 inches; extremely gravelly silt loam  
2Bt—29 to 60 inches; extremely gravelly clay

#### **Hailey**

A—0 to 10 inches; extremely gravelly silt  
Bw—10 to 60 inches; extremely cobbly silt loam

### **73120—Rueter-Gasconade-Rock outcrop complex, 35 to 60 percent slopes**

#### ***Setting***

*Landform:* Hillside on plateau  
*Position on the landform:* Backslope



**Figure 11.—A deer stand in an area of Rueter-Hailey complex, 35 to 60 percent slopes, rocky.**

*Parent material:* Rueter—gravelly colluvium over residuum weathered from cherty limestone; Gasconade—clayey residuum weathered from dolostone; Rock outcrop—no data  
*Slope shape:* Rueter and Gasconade—convex; Rock outcrop—no data

### ***Composition***

Rueter and similar soils—50 percent  
 Gasconade and similar soils—25 percent  
 Rock outcrop—15 percent

Minor components—10 percent  
 Hailey—backslope  
 Ocie—backslope

### ***Soil Properties and Qualities***

*Depth to bedrock:* Rueter—very deep (more than 60 inches); Gasconade—very shallow and shallow (4 to 20 inches); Rock outcrop—no data

*Runoff:* Rueter and Gasconade—very high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic):* Rueter—none; Gasconade—4 to 20 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Rueter and Gasconade—somewhat excessively drained; Rock outcrop—no data

### ***Typical Profile***

#### **Rueter**

A—0 to 4 inches; extremely gravelly silt loam

E—4 to 11 inches; very gravelly silt loam

Bt—11 to 44 inches; very gravelly silt loam

2Bt—44 to 60 inches; very gravelly silty clay

#### **Gasconade**

A—0 to 8 inches; very flaggy silty clay

R—8 to 80 inches; unweathered bedrock

## **73121—Scholten-Tonti complex, 3 to 8 percent slopes**

### ***Setting***

*Landform:* Ridge on plateau (fig. 12)

*Position on the landform:* Interfluve

*Parent material:* Scholten—gravelly colluvium over slope alluvium over residuum weathered from cherty limestone; Tonti—fine-loamy colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope shape:* Convex

### ***Composition***

Scholten and similar soils—67 percent

Tonti and similar soils—28 percent

Minor components—5 percent

Horneybuck—backslope



**Figure 12.—A good stand of fescue in an area of Scholten-Tonti complex, 3 to 8 percent slopes.**

### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* High

*Depth to restrictive feature (fragipan):* Scholten—18 to 27 inches; Tonti—15 to 30 inches

*Flooding:* None

*Water table:* Scholten—18 to 27 inches; Tonti—15 to 30 inches

*Drainage class:* Moderately well drained

### ***Typical Profile***

#### **Scholten**

A—0 to 10 inches; silt loam

Bt—10 to 27 inches; very gravelly silt loam

2Btx—27 to 34 inches; extremely gravelly silt loam

3Bt—34 to 60 inches; very gravelly clay

#### **Tonti**

Ap—0 to 7 inches; silt

Bt—7 to 27 inches; silt loam

2Btx—27 to 47 inches; gravelly silty clay loam

2Bt—47 to 60 inches; gravelly silty clay loam

### **73122—Gasconade-Rock outcrop complex, 50 to 90 percent slopes**

#### ***Setting***

*Landform:* Bluff on plateau

*Position on the landform:* Backslope

*Parent material:* Gasconade—clayey residuum weathered from cherty limestone; Rock outcrop—no data

*Slope shape:* Gasconade—linear; Rock outcrop—no data

#### ***Composition***

Gasconade and similar soils—50 percent

Rock outcrop—40 percent

Minor components—10 percent

Arkana—backslope

### ***Soil Properties and Qualities***

*Depth to bedrock:* Gasconade—very shallow and shallow (4 to 20 inches); Rock outcrop—no data

*Runoff:* Gasconade—very high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic):*

Gasconade—4 to 20 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Gasconade—somewhat excessively drained; Rock outcrop—no data

### ***Typical Profile***

#### **Gasconade**

A—0 to 6 inches; very cobbly silty clay

R—6 to 80 inches; unweathered bedrock

### **73123—Mano-Ocie complex, 3 to 15 percent slopes**

#### ***Setting***

*Landform:* Structural bench on plateau

*Position on the landform:* Summit

*Parent material:* Mano—colluvium derived from cherty limestone over residuum weathered from dolostone; Ocie—colluvium over gravelly residuum weathered from limestone and sandstone

*Slope shape:* Convex

#### ***Composition***

Mano and similar soils—63 percent

Ocie and similar soils—29 percent

Minor components—8 percent

Pomme—interfluvial summit

### ***Soil Properties and Qualities***

*Depth to bedrock:* Mano—very deep (more than 60 inches); Ocie—deep (40 to 60 inches)

*Runoff:* High

*Depth to restrictive feature (bedrock (lithic):*

Mano—none; Ocie—40 to 60 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Moderately well drained

### ***Typical Profile***

#### **Mano**

A—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt—10 to 29 inches; very gravelly silt loam

2Bt—29 to 72 inches; clay

#### **Ocie**

A—0 to 19 inches; very gravelly silt loam

Bt—19 to 39 inches; very gravelly silty clay loam

2Bt—39 to 52 inches; gravelly clay

R—52 to 80 inches; unweathered bedrock

### **73124—Alred-Ocie complex, 15 to 50 percent slopes, stony**

#### ***Setting***

*Landform:* Structural bench on plateau

*Position on the landform:* Backslope

*Parent material:* Alred—gravelly colluvium derived from cherty limestone over residuum weathered from cherty limestone; Ocie—colluvium derived from cherty limestone over residuum weathered from cherty limestone

*Slope shape:* Convex

#### ***Composition***

Alred and similar soils—47 percent

Ocie and similar soils—41 percent

Minor components—12 percent

Gasconade—backslope

Gatewood—backslope

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Alred—very deep (more than 60 inches); Ocie—deep (40 to 60 inches)

*Runoff:* Very high

*Percent area covered by surface coarse fragments:*  
0.01 to 0.10 subangular stones

*Depth to restrictive feature (bedrock (lithic):*  
Alred—none; Ocie—40 to 60 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Alred—well drained; Ocie—moderately well drained

#### ***Typical Profile***

##### **Alred**

A—0 to 8 inches; very gravelly silt loam

Bt1—8 to 22 inches; extremely gravelly silt loam

Bt2—22 to 31 inches; very gravelly silt loam

2Bt—31 to 60 inches; gravelly clay

##### **Ocie**

A—0 to 3 inches; gravelly silt loam

E—3 to 8 inches; very gravelly silt loam

Bt—8 to 23 inches; very gravelly silt loam

2Bt—23 to 45 inches; stony clay

R—45 to 80 inches; unweathered bedrock

### **73125—Knobby-Rock outcrop complex, 3 to 15 percent slopes**

#### ***Setting***

*Landform:* Knob on plateau

*Position on the landform:* Summit

*Parent material:* Knobby—loamy residuum weathered from dolostone or cherty limestone; Rock outcrop—no data

*Slope shape:* Knobby—convex; Rock outcrop—no data

#### ***Composition***

Knobby and similar soils—80 percent

Rock outcrop—20 percent

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Knobby—very shallow and shallow (4 to 20 inches); Rock outcrop—no data

*Runoff:* Knobby—high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic):* Knobby—4 to 20 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Knobby—somewhat excessively drained; Rock outcrop—no data

#### ***Typical Profile***

##### **Knobby**

A—0 to 6 inches; very flaggy silt loam

R—6 to 80 inches; unweathered bedrock

### **73126—Knobby-Rock outcrop complex, 15 to 50 percent slopes**

#### ***Setting***

*Landform:* Knob on plateau

*Parent material:* Knobby—loamy residuum weathered from dolostone or cherty limestone; Rock outcrop—no data

*Slope shape:* Knobby—convex; Rock outcrop—no data

#### ***Composition***

Knobby and similar soils—75 percent

Rock outcrop—25 percent

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Knobby—very shallow and shallow (4 to 20 inches); Rock outcrop—no data

*Runoff:* Knobby—very high; Rock outcrop—no data

*Depth to restrictive feature (bedrock (lithic)):* Knobby—4 to 20 inches; Rock outcrop—no data

*Flooding:* None

*Water table:* None

*Drainage class:* Knobby—somewhat excessively drained; Rock outcrop—no data

### ***Typical Profile***

#### **Knobby**

A—0 to 4 inches; very channery silt loam

R—4 to 80 inches; unweathered bedrock

### **73127—Gobbler-Sonsac complex, 3 to 8 percent slopes**

#### ***Setting***

*Landform:* Structural bench on plateau

*Position on the landform:* Summit

*Parent material:* Gobbler—gravelly colluvium over gravelly residuum weathered from limestone or dolostone; Sonsac—gravelly colluvium over residuum weathered from cherty limestone

*Slope shape:* Linear

#### ***Composition***

Gobbler and similar soils—50 percent

Sonsac and similar soils—35 percent

Minor components—15 percent

Pomme—summit

Rueter—shoulder

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Gobbler—deep (40 to 60 inches);

Sonsac—moderately deep (20 to 40 inches)

*Runoff:* High

*Depth to restrictive feature (bedrock (lithic)):*

Gobbler—40 to 60 inches; Sonsac—20 to 40 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

### ***Typical Profile***

#### **Gobbler**

A—0 to 2 inches; gravelly silt loam

Bt—2 to 16 inches; gravelly silt loam

2Bt—16 to 43 inches; extremely gravelly clay

3Bt—43 to 49 inches; gravelly clay

R—49 to 80 inches; unweathered bedrock

#### **Sonsac**

A—0 to 2 inches; silt loam

BE—2 to 13 inches; gravelly silt loam

Bt—13 to 35 inches; very gravelly silty clay loam

R—35 to 80 inches; unweathered bedrock

### **73128—Gobbler-Sonsac complex, 8 to 15 percent slopes, stony**

#### ***Setting***

*Landform:* Structural bench on plateau

*Position on the landform:* Summit

*Parent material:* Gobbler—gravelly colluvium over gravelly residuum weathered from limestone or dolostone; Sonsac—gravelly colluvium over residuum weathered from cherty limestone

*Slope shape:* Linear

#### ***Composition***

Gobbler and similar soils—48 percent

Sonsac and similar soils—39 percent

Minor components—15 percent

Gasconade—shoulder

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Gobbler—deep (40 to 60 inches);

Sonsac—moderately deep (20 to 40 inches)

*Runoff:* Very high

*Percent area covered by surface coarse fragments:*

Gobbler—0.01 to 0.10 subangular stones;

Sonsac—0.01 to 0.10 coarse subangular gravel

*Depth to restrictive feature (bedrock (lithic)):*

Gobbler—40 to 60 inches; Sonsac—20 to 40 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

### ***Typical Profile***

#### **Gobbler**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silty clay loam

Bt—13 to 29 inches; extremely gravelly clay

2Bt—29 to 55 inches; very cobbly clay

2R—55 to 80 inches; unweathered bedrock

#### **Sonsac**

A—0 to 5 inches; gravelly silt loam

E—5 to 10 inches; very gravelly silt loam

Bt—10 to 13 inches; very gravelly silt loam

2Bt—13 to 27 inches; gravelly clay

2R—27 to 80 inches; unweathered bedrock

### **73129—Gasconade gravelly clay loam, 3 to 8 percent slopes**

#### ***Setting***

*Landform:* Ridge on basin

*Position on the landform:* Summit

*Parent material:* Clayey residuum weathered from dolostone

*Slope shape:* Linear

#### ***Composition***

Gasconade and similar soils—71 percent

Minor components—29 percent

Blueye—backslope

Ocie—backslope

Rock outcrop

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Runoff:* Medium

*Depth to restrictive feature (bedrock (lithic)):* 4 to 20 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Somewhat excessively drained

#### ***Typical Profile***

A1—0 to 6 inches; gravelly clay loam

A2—6 to 12 inches; very flaggy clay loam

R—12 to 80 inches; unweathered bedrock

### **73130—Gasconade very gravelly clay loam, 8 to 15 percent slopes, very rocky**

#### ***Setting***

*Landform:* Ridge on basin

*Position on the landform:* Backslope

*Parent material:* Clayey residuum weathered from dolostone

*Slope shape:* Convex

#### ***Composition***

Gasconade and similar soils—82 percent

Minor components—18 percent

Blueye—backslope

Pomme—backslope

Rock outcrop

### ***Soil Properties and Qualities***

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Runoff:* Very high

*Depth to restrictive feature (bedrock (lithic)):* 4 to 20 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Somewhat excessively drained

#### ***Typical Profile***

A—0 to 6 inches; very gravelly clay loam

Bw—6 to 15 inches; very gravelly clay

R—15 to 80 inches; unweathered bedrock

### **73131—Gasconade very gravelly silty clay, 15 to 20 percent slopes, very rocky**

#### ***Setting***

*Landform:* Hillside on basin

*Position on the landform:* Backslope

*Parent material:* Clayey residuum weathered from dolostone

*Slope shape:* Convex

#### ***Composition***

Gasconade and similar soils—72 percent

Minor components—28 percent

Blueye—backslope

Rock outcrop

Gobbler—backslope

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Runoff:* Very high

*Depth to restrictive feature (bedrock (lithic)):* 4 to 22 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Somewhat excessively drained

#### ***Typical Profile***

A—0 to 6 inches; very gravelly silty clay

Bw—6 to 16 inches; extremely gravelly clay

R—16 to 80 inches; unweathered bedrock

**73132—Gasconade very channery silty clay loam, 20 to 35 percent slopes, very rocky**

***Setting***

*Landform:* Hillside on basin

*Position on the landform:* Backslope

*Parent material:* Clayey residuum weathered from dolostone

*Slope shape:* Linear

***Composition***

Gasconade and similar soils—83 percent

Minor components—17 percent

Mano—backslope

Rock outcrop

Sonsac—backslope

***Soil Properties and Qualities***

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Runoff:* Very high

*Depth to restrictive feature (bedrock (lithic)):* 4 to 20 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Somewhat excessively drained

***Typical Profile***

A—0 to 9 inches; very channery silty clay loam

R—9 to 80 inches; unweathered bedrock

**73133—Alred-Ocie complex, 3 to 8 percent slopes**

***Setting***

*Landform:* Interfluvium on basin

*Position on the landform:* Summit

*Parent material:* Gravelly colluvium derived from cherty limestone over residuum weathered from cherty limestone

*Slope shape:* Convex

***Composition***

Alred and similar soils—56 percent

Ocie and similar soils—34 percent

Minor components—10 percent

Pomme—summit

***Soil Properties and Qualities***

*Depth to bedrock:* Alred—very deep (more than 60 inches); Ocie—deep (40 to 60 inches)

*Runoff:* Medium

*Depth to restrictive feature (bedrock (lithic)):*  
Alred—none; Ocie—40 to 60 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Alred—well drained; Ocie—moderately well drained

***Typical Profile***

**Alred**

A—0 to 9 inches; gravelly loam

Bt1—9 to 21 inches; very gravelly loam

Bt2—21 to 39 inches; extremely stony sandy clay loam

2Bt—39 to 60 inches; clay

**Ocie**

A—0 to 3 inches; silt loam

Bt1—3 to 15 inches; silt loam

Bt2—15 to 29 inches; extremely gravelly clay loam

2Bt—29 to 45 inches; clay

R—45 to 80 inches; unweathered bedrock

**73134—Alred-Ocie-Sonsac complex, 8 to 15 percent slopes, stony**

***Setting***

*Landform:* Interfluvium on basin

*Position on the landform:* Backslope

*Parent material:* Alred—gravelly colluvium and/or loess over clayey residuum; Ocie—gravelly colluvium over clayey residuum weathered from dolostone; Sonsac—gravelly colluvium over residuum weathered from cherty limestone

*Slope shape:* Convex

***Composition***

Alred and similar soils—41 percent

Ocie and similar soils—37 percent

Sonsac and similar soils—18 percent

Minor components—4 percent

Pomme—backslope

***Soil Properties and Qualities***

*Depth to bedrock:* Alred—very deep (more than 60 inches); Ocie—deep (40 to 60 inches);

Sonsac—moderately deep (20 to 40 inches)

*Runoff:* Alred—high; Ocie—very high; Sonsac—medium

*Percent area covered by surface coarse fragments:*

Alred and Ocie—0.01 to 0.10 subrounded stones;

Sonsac—0.10 to 3 subrounded stones

*Depth to restrictive feature (bedrock (lithic):*

Alred—none; Ocie—40 to 60 inches; Sonsac—20 to 40 inches

*Flooding:* None

*Water table:* None

*Drainage class:* Alred and Sonsac—well drained;  
Ocie—moderately well drained

**Typical Profile****Alred**

A—0 to 12 inches; very gravelly silt loam  
BE—12 to 18 inches; very gravelly silt loam  
Bt—18 to 30 inches; extremely gravelly loam  
2Bt—30 to 61 inches; gravelly clay

**Ocie**

A—0 to 7 inches; gravelly silt loam  
Bt1—7 to 18 inches; gravelly silt loam  
Bt2—18 to 33 inches; extremely gravelly silty clay loam  
2Bt—33 to 46 inches; gravelly clay  
R—46 to 80 inches; unweathered bedrock

**Sonsac**

A—0 to 4 inches; gravelly silt loam  
E—4 to 13 inches; very gravelly silt loam  
Bt—13 to 19 inches; very gravelly silty clay loam  
2Bt—19 to 34 inches; gravelly clay  
2R—34 to 80 inches; unweathered bedrock

**74638—Waben very gravelly silt loam, 3 to 8 percent slopes****Setting**

*Landform:* Alluvial fan on plateau

*Position on the landform:* Toeslope

*Parent material:* Gravelly alluvium and/or gravelly colluvium

*Slope shape:* Convex

**Composition**

Waben and similar soils—90 percent  
Minor components—10 percent  
Britwater—summit on terrace

**Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Medium

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

**Typical Profile**

A—0 to 3 inches; very gravelly silt loam  
E—3 to 8 inches; very gravelly silt loam  
Bt—8 to 60 inches; very gravelly silt loam

**74639—Waben extremely gravelly silt loam, 8 to 15 percent slopes****Setting**

*Landform:* Alluvial fan on plateau

*Position on the landform:* Foothlope

*Parent material:* Gravelly alluvium

*Slope shape:* Convex

**Composition**

Waben and similar soils—90 percent  
Minor components—10 percent  
Gepp—base slope on alluvial fan

**Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* High

*Flooding:* None

*Water table:* None

*Drainage class:* Well drained

**Typical Profile**

A—0 to 5 inches; extremely gravelly silt loam  
E—5 to 21 inches; very gravelly silt loam  
Bt—21 to 60 inches; very gravelly silt loam

**74640—Hootentown silt loam, 0 to 3 percent slopes, rarely flooded****Setting**

*Landform:* Stream terrace on river valley (fig. 13)

*Position on the landform:* Toeslope

*Parent material:* Silty alluvium

*Slope shape:* Linear

**Composition**

Hootentown and similar soils—94 percent  
Minor components—6 percent  
Hepler—toeslope on low stream terrace

**Soil Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Negligible

*Flooding:* Rare

*Water table:* None

*Drainage class:* Well drained



Figure 13.—Typical landscape in an area of Hootentown silt loam, 0 to 3 percent slopes.

### ***Typical Profile***

Ap—0 to 7 inches; silt loam  
 BA—7 to 12 inches; silt loam  
 Bt1—12 to 32 inches; silt loam  
 Bt2—32 to 60 inches; silt loam

### **75401—Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded**

#### ***Setting***

*Landform:* Flood-plain step on river valley  
*Parent material:* Fine-silty alluvium  
*Slope shape:* Linear

#### ***Composition***

Horsecreek and similar soils—57 percent  
 Jamesfin and similar soils—29 percent

Minor components—14 percent  
 Racoon—flood-plain step  
 Bearthicket—flood plain

### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Low  
*Flooding:* Occasional  
*Water table:* None  
*Drainage class:* Well drained

### ***Typical Profile***

#### **Horsecreek**

Ap—0 to 9 inches; silt loam  
 A—9 to 19 inches; silt loam  
 Bt—19 to 60 inches; silt loam

#### **Jamesfin**

A—0 to 5 inches; silt loam  
 Bw—5 to 60 inches; silt loam

### **75402—Pinerun silt loam, 0 to 3 percent slopes, occasionally flooded**

#### ***Setting***

*Landform:* Flood-plain step on river valley  
*Parent material:* Alluvium derived from cherty limestone  
*Slope shape:* Linear

#### ***Composition***

Pinerun and similar soils—81 percent  
 Minor components—19 percent  
     Cedargap—flood plain  
     Channel—flood plain  
     Secesh—flood-plain step

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Low  
*Flooding:* Occasional  
*Water table:* None  
*Drainage class:* Well drained

#### ***Typical Profile***

Ap—0 to 7 inches; silt loam  
 BA—7 to 11 inches; gravelly silt loam  
 Bt—11 to 31 inches; very gravelly silt loam  
 2Bt—31 to 60 inches; very gravelly loam

### **75403—Cedargap-Woolly complex, 0 to 5 percent slopes, occasionally flooded**

#### ***Setting***

*Landform:* Flood plain on river valley  
*Parent material:* Gravelly alluvium derived from cherty limestone  
*Slope shape:* Linear

#### ***Composition***

Cedargap and similar soils—59 percent  
 Woolly and similar soils—37 percent  
 Minor components—4 percent  
     Hercules—flood-plain step

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Cedargap—very deep (more than 60 inches); Woolly—deep (40 to 60 inches)  
*Runoff:* Very low  
*Depth to restrictive feature (bedrock (lithic):*  
     Cedargap—none; Woolly—40 to 60 inches

*Flooding:* Occasional  
*Water table:* None  
*Drainage class:* Well drained

#### ***Typical Profile***

#### **Cedargap**

A—0 to 6 inches; very gravelly loam  
 C—6 to 60 inches; extremely gravelly sandy clay loam

#### **Woolly**

A—0 to 27 inches; very gravelly clay loam  
 C—27 to 50 inches; extremely gravelly clay loam  
 R—50 to 80 inches; unweathered bedrock

### **75404—Pinerun gravelly silt loam, 0 to 3 percent slopes, occasionally flooded**

#### ***Setting***

*Landform:* Flood-plain step on river valley  
*Parent material:* Gravelly alluvium derived from cherty limestone  
*Slope shape:* Linear

#### ***Composition***

Pinerun and similar soils—76 percent  
 Minor components—24 percent  
     Cedargap—flood plain  
     Midco—flood plain  
     Secesh—flood-plain step

#### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)  
*Runoff:* Very low  
*Flooding:* Occasional  
*Water table:* None  
*Drainage class:* Well drained

#### ***Typical Profile***

A—0 to 5 inches; very gravelly silt loam  
 Bt—5 to 38 inches; extremely gravelly clay loam  
 Btb—38 to 60 inches; very gravelly clay loam

### **75405—Pinerun-Waben complex, 0 to 5 percent slopes**

#### ***Setting***

*Landform:* Flood-plain step on river valley and alluvial fan on plateau

*Parent material:* Pinerun—gravelly alluvium derived from cherty limestone; Waben—gravelly alluvium and/or colluvium derived from cherty limestone

*Slope shape:* Pinerun—linear; Waben—convex

### ***Composition***

Pinerun and similar soils—61 percent

Waben and similar soils—31 percent

Minor components—8 percent

Secesh—flood-plain step

### ***Soil Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Runoff:* Very low

*Flooding:* Pinerun—occasional; Waben—none

*Water table:* None

*Drainage class:* Well drained

### ***Typical Profile***

#### **Pinerun**

A—0 to 6 inches; very gravelly silt loam

BA—6 to 11 inches; very gravelly silt loam

Bt—11 to 36 inches; very gravelly silt loam

Btb—36 to 60 inches; extremely gravelly silty clay loam

#### **Waben**

Ap—0 to 5 inches; very gravelly silt loam

E—5 to 12 inches; very gravelly silt loam

Bt—12 to 60 inches; very gravelly silt loam

## **99000—Pits, quarries**

### ***Setting***

*Landform:* None assigned

*Parent material:* No data

### ***Composition***

Pits, quarries—95 percent

Minor components—5 percent

Processed/stockpiled stone

### ***Soil Properties and Qualities***

This map unit occurs as areas from which limestone, dolostone, and sandstone have been quarried. The areas typically are 4 to 10 acres in size. The quarries include the areas that are being excavated and the surrounding areas used for stockpiling, quarrying activities, and equipment.

## **99001—Water**

### ***Setting***

*Landform:* None assigned

*Parent material:* No data

### ***Composition***

Water—100 percent

## **99005—Landfills**

### ***Setting***

*Landform:* None assigned

*Parent material:* No data

### ***Composition***

Landfills—85 percent

Minor components—15 percent

Reshaped and seeded soils

Udorthents

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
70030	Noark-Clarksville complex, 3 to 8 percent slopes-----	21,595	6.6
70031	Hailey-Rueter complex, 15 to 35 percent slopes, very rocky-----	69,116	21.1
70032	Tonti silt, 1 to 3 percent slopes-----	1,967	0.6
70033	Moko-Rock outcrop complex, 8 to 15 percent slopes-----	2,306	0.7
70034	Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes-----	22,792	7.0
70035	Sonsac-Gobbler complex, 15 to 20 percent slopes-----	6,699	2.0
70036	Sonsac-Gobbler complex, 20 to 35 percent slopes, very stony-----	19,402	5.9
70037	Sonsac-Rueter complex, 35 to 70 percent slopes, very rocky-----	3,186	1.0
70038	Moko-Rock outcrop complex, 3 to 8 percent slopes, very stony-----	386	0.1
70050	Rueter-Goss complex, 8 to 15 percent slopes, karst-----	70	*
70051	Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, karst-----	40	*
71252	Britwater gravelly silt loam, 3 to 8 percent slopes-----	3,176	1.0
73070	Sowcoon silt loam, 0 to 3 percent slopes, frequently ponded-----	57	*
73113	Scholten gravelly silt loam, 3 to 8 percent slopes-----	12,916	4.0
73114	Captina silt loam, 1 to 3 percent slopes-----	163	*
73115	Horneybuck-Tonti complex, 3 to 8 percent slopes-----	613	0.2
73116	Pomme silt loam, 2 to 5 percent slopes-----	591	0.2
73117	Clarksville-Scholten-Hailey complex, 3 to 15 percent slopes-----	27,183	8.3
73118	Rueter-Goss complex, 8 to 20 percent slopes-----	16,806	5.1
73119	Rueter-Hailey complex, 35 to 60 percent slopes, rocky-----	8,935	2.7
73120	Rueter-Gasconade-Rock outcrop complex, 35 to 60 percent slopes-----	8,304	2.5
73121	Scholten-Tonti complex, 3 to 8 percent slopes-----	2,254	0.7
73122	Gasconade-Rock outcrop complex, 50 to 90 percent slopes-----	1,344	0.4
73123	Mano-Ocie complex, 3 to 15 percent slopes-----	2,643	0.8
73124	Alred-Ocie complex, 15 to 50 percent slopes, stony-----	2,280	0.7
73125	Knobby-Rock outcrop complex, 3 to 15 percent slopes-----	372	0.1
73126	Knobby-Rock outcrop complex, 15 to 50 percent slopes-----	1,455	0.4
73127	Gobbler-Sonsac complex, 3 to 8 percent slopes-----	2,166	0.7
73128	Gobbler-Sonsac complex, 8 to 15 percent slopes, stony-----	4,769	1.5
73129	Gasconade gravelly clay loam, 3 to 8 percent slopes-----	891	0.3
73130	Gasconade very gravelly clay loam, 8 to 15 percent slopes, very rocky-----	3,041	0.9
73131	Gasconade very gravelly silty clay, 15 to 20 percent slopes, very rocky-----	3,262	1.0
73132	Gasconade very channery silty clay loam, 20 to 35 percent slopes, very rocky-----	9,467	2.9
73133	Alred-Ocie complex, 3 to 8 percent slopes-----	5,674	1.7
73134	Alred-Ocie-Sonsac complex, 8 to 15 percent slopes, stony-----	5,592	1.7
74638	Waben very gravelly silt loam, 3 to 8 percent slopes-----	700	0.2
74639	Waben extremely gravelly silt loam, 8 to 15 percent slopes-----	215	*
74640	Hootentown silt loam, 0 to 3 percent slopes, rarely flooded-----	2,479	0.8
75401	Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded-----	1,851	0.6
75402	Pinerun silt loam, 0 to 3 percent slopes, occasionally flooded-----	2,941	0.9
75403	Cedargap-Woolly complex, 0 to 5 percent slopes, occasionally flooded-----	1,621	0.5
75404	Pinerun gravelly silt loam, 0 to 3 percent slopes, occasionally flooded-----	2,756	0.8
75405	Pinerun-Waben complex, 0 to 5 percent slopes-----	4,268	1.3
99000	Pits, quarries-----	228	*
99001	Water-----	38,272	11.7
99005	Landfills-----	4	*
	Total-----	326,848	100.0

\* Less than 0.1 percent.

# Prime Farmland

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Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 8,025 acres in the survey area, or nearly 3 percent of the total acreage, meets the soil requirements for prime farmland. This small amount of acreage is located throughout the county along the larger perennial streams, in the northwest part of the county, and in the south around the town of Blueye. The majority of the prime farmland is in the Pinerun-Britwater-Hootentown and Tonti-Scholten soil associations. These associations are described under the heading "General Soil Map Units." Most of the prime farmland is used for hay and pasture. A few small

areas, mainly in the northwest, are planted in corn, soybeans, or wheat. A few acres are used for growing tobacco. Some corn and grain sorghum are cut for silage.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed below. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Some soils that have a seasonal high water table and all soils that are frequently flooded during the growing season qualify as prime farmland only in areas where these limitations have been overcome by drainage measures or flood control. The need for these measures is indicated after the map unit name below. Onsite evaluation is needed to determine whether or not these limitations have been overcome by corrective measures.

The soils identified as prime farmland in Stone County are:

- 73114 Captina silt loam, 1 to 3 percent slopes
- 73116 Pomme silt loam, 2 to 5 percent slopes
- 74640 Hootentown silt loam, 0 to 3 percent slopes, rarely flooded
- 75401 Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded
- 75402 Pinerun silt loam, 0 to 3 percent slopes, occasionally flooded



# Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern that is in harmony with nature.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and

indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited or not limited by all of the soil features that affect a specified use. Terms for the limitation classes are *not limited*, *slightly limited*, *moderately limited*, *limited*, and *very limited*. In certain tables, the soils are rated as *improbable*, *possible*, or *probable* sources of specific materials used for construction materials.

## Numerical Ratings

Numerical ratings in the tables indicate the severity of individual limitations. They also indicate the overall degree to which a soil is limited or not limited for a specific use. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

In tables that use limitation class terms, such as *very limited* or *limited*, the limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each map unit component. The overall limitation rating for the component is based on the most severe limitation.

## Crops and Pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants

best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 1987, according to the U.S. Census of Agriculture Report, about 133,500 acres in Stone County was used for crops and pasture. In 1992, about 21,873 acres was harvested cropland consisting of 21,500 acres of hay (Missouri Department of Agriculture, 1993) and 373 acres of row crops and small grain crops (Hedrick, 1993). In addition, about 24,000 acres was pastured woodland.

Most cleared land in the county is used for pasture and hay. The acreage used for row crops and small grain crops is small and insignificant. Soils suited to cultivated crops are on bottomlands, terraces, and gently and moderately sloping upland areas.

Most soils in the county are not suited to intense use for cultivated crops. Slope, depth to bedrock, high content of coarse fragments, surface stones in places, or combinations of these are the main limitations.

The hazard of erosion is the main management concern on the Britwater, Captina, Horneybuck, Pomme, and Tonti soils if used for cultivated crops. Farming on the contour, terraces with grassed waterways, and crop residue left on the surface throughout the fall and winter help to protect these soils from erosion.

Soil fertility is low in most of the soils in Stone County. All of the soils need additions of plant food for maximum production. Nearly all of the soils in the county, particularly the upland soils, are naturally acid in the upper part of the root zone. These soils need applications of ground limestone or ground dolostone to raise the pH and calcium and magnesium levels for good plant growth. Applications of lime and fertilizer on all soils should be based on the results of a soil test, on crop needs, and on the expected yield.

Soil tilth is an important factor in seedbed preparation, the germination of seeds, and the infiltration of water into the soil. Soils that have good tilth are granular and porous. Many of the soils in Stone County have a surface layer of silt loam that is low or moderately low in organic matter content. If these soils are frequently cultivated, the soil structure becomes weak or is destroyed, causing the formation of a crust on the surface during intense rainfall. This crust reduces infiltration and increases runoff. Returning crop

residue to the soil, working in green manure and adding barnyard manure, improves the soil structure, thereby reducing crusting and increasing the infiltration rate.

Pasture and hay crops that are suited to the soils and climate of Stone County include several kinds of legumes, cool-season grasses, and warm-season grasses. Alfalfa and red clover are the legumes commonly grown for hay. Very deep, well drained soils that have high available water capacity and are high in calcium and magnesium or are adequately limed, such as the Hootentown, Horsecreek, and Jamesfin soils, are well suited to alfalfa for hay production. The Alred, Britwater, Cedargap, Clarksville, Goss, Noark, Pinerun, Pomme, Rueter, and Waben soils are moderately suited to alfalfa for hay production. Soils that have a fragipan, such as Captina, Scholten, and Tonti; a perched water table, such as Horneybuck and Sowcoon; or limited depth to bedrock, such as Gobbler, Ocie, and Sonsac; are better suited to clovers for hay or pasture production. If adequately limed and fertilized, most of the soils suited to pasture and hay production can support red clover or several of the other legumes.

Tall fescue, orchard grass, and some other cool-season grasses are suited to many of the soils in the county. These grasses grow best in the spring, early summer, and fall. Where additional midsummer pasture or hay is needed, warm-season grasses can be grown. Very deep, well drained soils that have high available water capacity, such as Hootentown, Horsecreek, and Jamesfin, are well suited to warm-season grasses, such as Caucasian bluestem, big bluestem, indiangrass, and switchgrass. Soils that have low to moderate available water capacity, such as Alred, Britwater, Captina, Clarksville, Gobbler, Goss, Horneybuck, Noark, Ocie, Pinerun, Pomme, Rueter, Tonti, Scholten, Sonsac, Sowcoon, and Waben, are moderately suited to most warm-season grasses. Horneybuck and Sowcoon soils are moderately well suited to switchgrass. Warm-season grasses grow best in late spring, summer, and early fall.

The very deep Hootentown, Horsecreek, and Jamesfin soils are well suited to cultivated crops, such as corn, soybeans, grain sorghum, and small grain. The Britwater, Captina, Horneybuck, Pomme, and Tonti soils are moderately suited to cultivated crops because of restricted rooting depth or another property that reduces the available water capacity. The Britwater, Captina, Horneybuck, Pinerun, Pomme, and Tonti soils are well suited to small grain crops.

Small acreages are in orchards and vegetable gardens. Although the acreage and the cash income from these enterprises are small, they are important to

individual families. Many families can and freeze homegrown fruits and vegetables for home use.

### **Yields per Acre**

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 5 and 6. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area are shown in table 5.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### **Land Capability Classification**

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and

limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

## Pasture and Hayland Suitability Groups

The soils in Stone County are assigned to a pasture and hayland group according to their suitability for pasture management.

Many different pasture and hayland suitability groups are in the survey area. Over time, the combination of plants best suited to a particular soil and climate has or will become dominant. Plant communities are not static but vary slightly from year to year and from place to place.

The relationship between soils and vegetation was ascertained during this survey. Thus, pasture and hayland suitability groups generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of each plant species. Soil reaction, salt content, and a seasonal high water table also are important. The "Field Office Technical Guide," which is available at local offices of the Natural Resources Conservation Service, can provide specific information about pasture and hayland suitability groups.

Table 6 shows, for each soil, the assigned pasture and hayland suitability group. Specific concerns and recommendations for pasture and hayland management for each group are described in the following paragraphs.

**Group WLO—Wet Loamy Overflow.** Wetness and flooding are the main management concerns. A seedbed can be easily prepared. A drainage system can improve the growth of deep-rooted species. The hazard of flooding should be considered when a grazing system is designed.

**Group LyO—Loamy Overflow.** Flooding is the main management concern. The hazard of flooding should be considered when a grazing system is designed.

**Group LyU—Loamy Upland.** No serious concerns affect pasture and hayland management. Erosion is a hazard in newly seeded areas. Timely seedbed preparation is needed to ensure a good ground cover.

**Group GrU—Gravelly Upland.** The soils in this group generally are not suited to cultivated crops. Droughtiness and erosion are the main management concerns. Seedbeds should be prepared on the contour. Timely seedbed preparation helps to ensure rapid plant growth and a protective ground cover.

**Group MDU—Moderately Deep Upland.** Shallow-rooted species that are tolerant of droughtiness should be selected for planting. Erosion is a serious hazard in newly seeded areas. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group WtP—Wet Pan.** The species that are

tolerant of wetness grow best. A dense layer in the subsoil can restrict the rooting depth and result in insufficient soil moisture in dry years. Erosion during seedbed preparation is the main concern. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group LyP—Loamy Pan.** A few small areas of this group are used for cultivated crops, and some areas are wooded. A dense layer in the subsoil can restrict the rooting depth and result in insufficient soil moisture in dry years. Erosion during seedbed preparation is a hazard. Seedbeds should be prepared on the contour. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group GrO—Gravelly Overflow.** Most areas of this group have been cleared of trees and are used for pasture and hay. Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during periods of flooding help to keep the pasture in good condition.

**Group GrP—Gravelly Pan.** If the soils in this group are used for improved pasture, chert on the surface hinders tillage. Because of seasonal droughtiness, timely planting is needed to ensure an adequate stand. Erosion is a hazard in newly seeded areas. Timely seedbed preparation helps to ensure a protective ground cover.

**Group ShU—Shallow Upland.** Most areas of this group are used for native pasture and are best suited to shallow-rooted species. In some areas tillage is nearly impossible. Broadcast seeding may be necessary. The slope and rock outcrop can hinder mowing in places.

**Group GNS—Generally Not Suited.** The soils in this group generally are not suited to pasture and hay. The suitability for forage species and the use of equipment are limited by the slope, a high content of rock fragments, or both.

## Forest Productivity and Management

Mike Hoffman, forester, Missouri Department of Conservation, helped prepare this section.

During Henry Rowe Schoolcraft's expedition of Missouri in 1818 and 1819, he crossed what is now the northern portion of Stone County. He described what he saw as, "...a mixture of forest and plain, of hills and long sloping valleys, where the tall oak forms a striking contrast with the rich foliage of the evergreen cane, or the waving field of prairie grass," and "...covered by a large growth of forest trees and cane, and interspersed with prairies. Oak, maple, white and black walnut, elm,

mulberry, hackberry, and sycamore are the common trees, and attain a very large size." His journal also described large herds of deer and elk and occasional herds of buffalo. These large herds of browsing animals, along with frequent wildfires, kept the forests open and grassy. Hunting and trapping were common, but the forest resources were left relatively undisturbed until the early settlers cleared small areas for homesteads and crop fields.

The early 1900's brought the need for large quantities of logs and lumber as railroads opened the American west to expansion. Most of the accessible forests in Stone County were harvested for railroad ties, logs, and lumber during this period, subjecting the now, unprotected soils to erosion. Wildfires and open range kept many of the cutover hills open and grassy. In the 1930's, the Forest Service began purchasing this cutover land to reforest and protect it from wildfires. During that same time, the Civilian Conservation Corps planted millions of trees, and the Missouri Conservation Department began protecting Missouri's forestland from wildfires.

Today, the forests in Stone County cover about 126,000 acres, or 44 percent, of the county. The majority is black oak, white oak, and post oak, with large amounts of cedar and cedar/hardwood mix on the poorer sites.

The potential of a particular site for growing trees depends heavily on the soil characteristics. This is apparent in Stone County where shortleaf pine grows on deep, cherty, exposed, limestone derived soils; eastern redcedar is found on shallow, rocky, dolomitic soils; and black walnut, red oak, and white oak are found on deep, alluvial soils.

In addition to soils, past management practices influence forest site characteristics and quality. Past practices of burning, grazing, and "high grading" (cutting the best trees and leaving the undesirable trees) have all contributed to poor forest conditions in much of the Ozarks. A majority of the soils in Stone County are well suited for forest production if proper management is used. This includes protecting forest stands from uncontrolled grazing and fires, matching species to sites when planting, thinning overstocked stands, removing low quality and low vigor trees, and encouraging reproduction with proper harvesting techniques. Since 82 percent of the forestland in Stone County is owned by farmers and private individuals, long-term forest production and soil protection is dependent on these individuals. An understanding of soil characteristics and limitations is critical if our forest and agricultural resources are to be managed properly.

The Tonti-Scholten association is on upland ridges in about 2 percent of the county. Though the soils in this

association are moderately well suited to the production of trees, much of the original tree cover has been cleared for hay and pasture. Both soils contain fragipans that can be limiting to tree growth when they occur at shallow depths. This can also cause problems with windthrow. Erosion from forest practices is not generally a concern due to the gentler slopes associated with these soils. Seedling mortality is moderate due to the lack of available moisture. Forest improvement practices should include frequent, light thinning to reduce the occurrence of windthrow. Fuelwood and Christmas tree plantings are other forest management options on these soils.

Soils in the Noark-Rueter-Scholten association are on uplands in about 18 percent of the county. These soils are moderately suited to the production of trees. Most sites remain forested on the steeper slopes. The Noark and Rueter soils in this association are very deep, well drained and somewhat excessively drained, and cherty in the surface layers. The Scholten soils are moderately well drained. These soils are also generally low in fertility. The primary limitations to forest production are the hazard of erosion and equipment limitations on steep slopes, droughtiness, and moderate seedling mortality. These soils are best suited for shortleaf pine, black oak, white oak, and hickory.

The Hailey-Rueter association is on upland ridges in about 40 percent of the county. These soils are very deep, somewhat excessively drained and excessively drained, and are on gentle to very steep slopes. They are not suitable for cultivation due to high amounts of chert in the upper layers and the steep slopes. Therefore, most sites in this association are either forested or cleared for hay and pasture. The primary limitations to forest production are steep slopes and droughtiness. Recommended forest species are black oak, white oak, shortleaf pine, white ash, and hickory (fig. 14).

Soils in the Gasconade-Alred association are on uplands in about 12 percent of the county. These soils are shallow to very deep, well drained and somewhat excessively drained, and are on gentle to steep slopes. The Gasconade soils are associated with poor forest sites, and cedar glades are common on exposed south and west slopes. Many of the sites on Alred soils have been cleared for hay or pasture, but they are suited to forest production. The Alred soils can support good stands of trees on north and east slopes. Northern red oak, black oak, and shortleaf pine are the best trees to plant.

Soils in the Sonsac-Moko-Rock outcrop association make up about 22 percent of the county. These soils are shallow and moderately deep, well drained, and moderately sloping to very steep. Grassy or cedar



**Figure 14.—A good stand of white oak trees in an area of Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, karst.**

glades are common on exposed south and west slopes on the Moko soils. Lower quality post oak and black oak are also common on these soils. The Sonsac soils can support good stands of trees on north and east slopes. Erosion from forest management practices can be a problem on the steeper slopes, and seedling mortality is high due to low fertility and droughtiness. Recommended species to plant are red cedar and black oak on the poorer sites and black oak, red oak, and white oak on the better sites.

The Pinerun-Britwater-Hootentown association is on nearly level to moderately sloping terraces and flood

plains in about 6 percent of the county. These soils are very deep, loamy and cherty, and well drained. Though they are well suited to forest production, most of the existing sites are cleared for cultivated crops, hay, and pasture. Sites remaining in hardwood timber contain black walnut, red oak, white oak, green ash, sycamore, hackberry, and maple. Rock fragments that limit the use of mechanized planters, seedling mortality due to droughtiness, and plant competition are limitations to forest management activities on Pinerun soils. Protection of streambanks and riparian zones should be a consideration when harvesting near streams.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. Potential productivity of the soils for wood crops is provided in table 7. Interpretive ratings are provided for various aspects of forest management in tables 8a and 8b.

## Forest Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

## Forest Management

In tables 8a and 8b, interpretive ratings are given for various aspects of forest management. The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified aspect of forest management. *Not limited* indicates that the soil has features that are very favorable for the specified aspect of management. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified aspect of management. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified aspect of management. The limitations can be overcome or minimized by special planning, design, or installation.

Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified aspect of management. The limitations can be overcome, but overcoming them generally requires special design, special planning, soil reclamation, specialized equipment, or other procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified aspect of management. The limitations generally cannot be overcome without major soil reclamation, special design, specialized equipment, or other expensive procedures. Poor performance, unsafe conditions, or high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation class for the component is based on the most severe limitation.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management factors. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or through the Agency's Website.

Ratings in the column *hand planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *mechanical planting* are based on slope, depth to a restrictive layer, content of sand,

plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *harvest equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

Ratings in the column *mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

Ratings in the column *roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

In table 8b, ratings in the column *erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

Ratings in the column *off-road or off-trail erosion* are based on slope and on the soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

Ratings in the column *soil rutting* are based on depth to a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. Ratings indicate limitations affecting the hazard or risk of ruts in the uppermost layers of the soil. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with the formation of ruts.

Ratings in the column *log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at

the forest site to serve as a log landing and to allow the efficient and effective use of equipment for the temporary storage and handling of logs.

Ratings in the column *seedling survival* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

## Recreation

Recreation facilities in Stone County include lake and river sports, swimming areas, hunting and fishing areas, camping, trails, game courts, golf courses, ball fields, picnic areas, play areas, theme parks, rodeo arenas, and wildlife viewing areas.

A large part of Table Rock Lake, more than 38,000 acres, is in the county (fig. 15). The public boat docks include Indian Point, Port of Kimberling, Baxter, Campbell Point, and Cape Fair. Campgrounds and access points managed by the Corps of Engineers include Aunts Creek Park, Campbell Point Park, Cape Fair Park, Cow Creek Park, Indian Point Park, Long



**Figure 15.—Tourism and water sports bring thousands of visitors to Table Rock Lake in Stone County.**

Creek Park, and Old Highway 86 Park. Other access points are at Coombs Ferry, Mill Creek, and Big Indian.

A part of the Mark Twain National Forest, comprising more than 16,000 acres, is in the county. This federally-owned area has fishing and hunting facilities, wildlife viewing areas, and other forms of outdoor recreation available to the general public. Included in the Mark Twain National Forest in Stone County is part of the Piney Creek Wilderness Area, which has about 15 miles of hiking and horse trails.

The Missouri Department of Natural Resources manages Table Rock State Park, part of which is in Stone County. The Missouri Department of Conservation also has land holdings in Stone County. Wire Road Conservation Area, near the town of Crane, contains a

section of Crane Creek with a reproducing population of trout. The Missouri Department of Conservation also maintains Kerr access and Hootentown access on James River.

Because of Table Rock Lake, an abundance of public land and private facilities, theme parks such as Silver Dollar City, and country music shows in nearby Branson, Missouri, recreation has become the major industry in Stone County. Many people have chosen this area as a place to spend their retirement years.

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreational use. Soils are rated for camp areas, picnic areas, playgrounds, and paths and trails.

The ratings in the table are based on restrictive soil

features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect recreational site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of

individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

The information in table 10 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should

absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, a water table, ponding, flooding, slope, and texture of the surface layer. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to frequent flooding during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

## Wildlife Habitat

Bob Schroepel, wildlife biologist, Missouri Department of Conservation, helped prepare this section.

Located in the southwest corner of the state, Stone County more closely exhibits the characteristics of an Ozark woodland county than the prairie counties to the northwest. Although early records indicate that the county contained no tall grass prairies, small amounts were documented in the neighboring counties of Barry, Christian, and Taney. However, native grass communities, such as glades and savannas, have been recorded in Stone County. Immediately following the Civil War, annual burning was controlled on such a large scale across the Ozarks that more than likely any of these grassland areas that had existed in Stone County were quickly converted to woodlands.

Stone County, which falls primarily in the White River section of the Ozark Natural Division (Thom and Wilson, 1980), is defined by large dolostone glades and balds, springs, sinkholes, sheer cliffs and rugged slopes above Table Rock Lake. This is in contrast to the more rolling uplands away from the White River Basin in the northern part of the county.

Much of the forestland in Stone County has been converted to grassland since the time of the early settlers, the first reported to have arrived as early as 1790 (Smith, 1989). Today, approximately 44 percent of the 326,000 plus acres in the county are forested. More than 16,000 acres of this forestland lies within the Mark Twain National Forest in the southern portion of the county. Other public lands in the county include a part of the 51,300 acres of Table Rock Reservoir and adjacent lands, Wire Road Conservation Area (730 acres), Jessie Hollow tract (120 acres), Ashe Juniper

Natural History Area (31 acres), and Hootentown (5 acres) and Kerr (39 acres) accesses along the James River.

In 1989, the Missouri Department of Conservation identified high-quality natural communities in Stone County. Only 12 qualified, primarily due to poor logging or grazing practices in the past or recent urban disturbance. The sites noted in the survey included dolomitic cliffs, forests, savannas and glades, a limestone glade, and a chert forest (Smith, 1989). There are published and/or documented accounts of 312 fish and wildlife species known to occur in Stone County, with another 104 species listed as "likely to occur," according to the Missouri Fish and Wildlife Information System, Missouri Department of Conservation, 1987. Typical nongame species include southern leopard frog, yellow-billed cuckoo, American kestrel, pileated woodpecker, eastern chipmunk, central stone roller, and three-toed box turtle. The most common game species include white-tailed deer, wild turkey, wood duck, raccoon, eastern cottontail rabbit, smallmouth bass, and largemouth bass.

Many typical southwestern species, such as the scissor-tailed flycatcher, greater roadrunner, and armadillo, frequently are observed in the county. Several species found in Stone County maintain special status in regard to state and federal rare and/or endangered species. A few of the documented species include the Oklahoma salamander, sharp-shinned hawk, Ozark cavefish, black bear, and black-tailed jack rabbit. Other species identified or noted in the Natural Features Inventory of 1989 included the Texas horned lizard, Ozark big-eared bat, ringed salamander, eastern slim minnow, long-nose darter, gray bat, grotto salamander, eastern collared lizard, Indiana bat, wood frog, western pygmy rattlesnake, and small-footed bat (Smith, 1989).

Likewise, many plant species found in Stone County are also listed on various sensitive/protected lists. Some of the species on these lists include the following: Royal catchfly (*Silene regia*); Ashe's juniper (*Juniperus ashei*); Golden currant (*Ribes odoratum*); Yellow wood (*Cladrastis lutea*); Trelease's larkspur (*Delphinium treleasei*); Bush's poppy mallow (*Callirhoe papaver*); soapweed (*Yucca glauca*); Spiderwort (*Tradescantia ozarkana*); American smoke tree (*Cotinus obovatus*); Blazing star (*Liatris mucronata*); Marine vine (*Cissus incisa*); Beardtongue (*Penstemon cobaea*); Stenosiphon (*Stenosiphon linifolius*); and a phyllanthus (*Phyllanthus polygonoides*), which is the only known population in Missouri (Smith, 1989).

Large mammal populations in Stone County appear to be slightly lower than other Ozark plateau counties. Sightings compiled from the Missouri Department of

Conservation cooperative archery hunter survey show that Stone County has a lower occurrence of coyote, red fox, raccoon, opossum, and deer, but higher numbers of gray fox and bobcat when compared to the state average. This survey is based on sightings per 1,000 hours of hunter trips (Missouri Department of Conservation, Study No. 68, 1990). Furbearer harvest for Stone County in 1988 and 1989 was similar to the average for neighboring counties. Those species harvested included opossum, muskrat, raccoon, mink, red fox, gray fox, coyote, bobcat, and beaver (Missouri Department of Conservation, Study No. 10, 1990).

Historically, high-quality forests were associated with the White River system; but these have since been lost with the damming of the White River to form Table Rock Lake. Typically, the major woodlands are found on the Clarksville, Hailey, Rueter, and Scholten soil series. The primary woodland game species are white-tailed deer, wild turkey, raccoon, and eastern fox squirrel. Hunter interest is high for deer (682 harvested in 1990) and fair for the rest. This area, especially in the Mark Twain National Forest, shows excellent potential for ruffed grouse. In fact, grouse were released in Stone County in the early 1980's by the Missouri Department of Conservation. All woodland species suffer greatly from misuse of timber resources, most notably the grazing of timber, which can lead to tree damage, destruction of wildlife habitat, increased soil erosion, and soil compaction. This is especially true on soils such as Rueter and Hailey, which are characterized by steep side slopes.

Openland wildlife populations, such as bobwhite quail, are generally considered low. Habitat for quail is limited by the lack of hard winter cover, little or no field edge and border, and lack of a winter food source (United States Department of Agriculture, 1982). The shortage of small grains in the county (1 percent of total acres in cropland) limits the winter food supply for many birds and animals. The few cropland areas in the county are usually associated with soils such as Hootentown, Horsecreek, and Jamesfin. Little native warm-season grass is found in Stone County. Increasing the amount of warm-season grass would help improve the quality and diversity of the county's grasslands for wildlife.

Little natural wetland habitat occurs in Stone County, except for maybe a few sinkholes, such as Yocum Pond near Reed's Spring. Many of the natural qualities of wet sinkholes have been destroyed by human disturbance. Table Rock Lake and adjacent rivers and small streams account for nearly all wetlands that are present. Cedargap, Pinerun, and Woolly soils are the predominant soils found along the smaller creek bottoms, while Britwater, Horsecreek, Hootentown, and

Jamesfin soils are associated with the larger river bottoms. While waterfowl species such as bufflehead, black duck, green-winged teal, northern shoveler and even a common loon have been recorded, the principal species would be small resident populations of wood ducks along the many streams and giant Canada geese on Table Rock Lake.

The major bodies of water in the county are Table Rock Lake, James River, West Fork of Roark Creek, and Spring, Railey, Crane, Brush, Aunts, and Indian Creeks. Sport fishing is extremely popular in the county with species including largemouth bass, smallmouth bass, channel catfish, bluegill, white bass, paddlefish, and black and white crappie. There are presently 4 active heron rookeries in Stone County, 1 with 100 plus individual birds, and 1 with 46 active nests (Smith, 1989).

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover (fig. 16). They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In tables 11a and 11b, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. Not limited indicates that the soil has features that are very favorable for the specified use. Habitat is easily established, improved, or maintained. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Habitat can be established, improved, or maintained. Moderately limited indicates that the soil has features that are moderately favorable for the specified use. Habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. Limited indicates that the soil has one or more features that are significant limitations for the specified use. Habitat is difficult to create, improve, or maintain in most places. Management is difficult and must be very intensive.



**Figure 16.—A buck rub in an area of Gobbler-Sonsac complex, 8 to 15 percent slopes, stony. These soils provide good cover for wildlife travel routes.**

Very limited indicates that the soil has one or more features that are unfavorable for the specified use. Habitat is usually impractical or impossible to create, improve, or maintain. Management would be very difficult, and unsatisfactory results can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30

Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component.

The overall limitation class for the component is based on the most severe limitation.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Selection should be made from a list of locally adapted species.

*Grasses and legumes* are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Selection should be made from a list of locally adapted species.

*Upland wild herbaceous plants* are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Selection should be made from a list of locally adapted species.

*Upland shrubs and vines* are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs and vines are depth of the root zone, available water capacity, salinity, and soil moisture. Selection should be made from a list of locally adapted species.

*Upland deciduous trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

*Upland mixed deciduous-conifer trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, browse, seeds and foliage. Soil properties and features that affect the growth of these trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

*Riparian herbaceous plants* are annual and perennial native or naturally established grasses and forbs that grow on moist or wet sites. Soil properties and features affecting riparian herbaceous plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

*Riparian shrubs, vines, and trees* are bushy woody plants and trees that grow on moist or wet sites. Soil properties and features affecting these plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

*Freshwater wetland plants* are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur adjacent to springs, seeps, depressions, bottomlands, marshes, or backwater areas of flood plains. Most areas are ponded for some period of time during the year. Soil properties and features affecting these plants are surface texture, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

*Irrigated freshwater wetland plants* are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur in areas of cropland, previously cropped areas, and marginal areas associated with cropland and wetlands. These areas may be ponded for some period of time during the year. These areas are generally suitable for restoring wetland features temporarily or permanently. Soil properties and features affecting these plants are surface texture, permeability, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, water management, and waste management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria

were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; evaluate sites for agricultural waste management; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance (fig. 17). Table 12 shows the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to

which the soils are limited by all of the soil features that affect building site development. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Moderately limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Limited indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7



**Figure 17.—Many soils being developed near Table Rock Lake have severe limitations for buildings and onsite waste disposals because of slope, depth to bedrock, and slow percolation.**

feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of

spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface

and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, a water table, and ponding.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

The soils of the survey area are rated in table 13 according to limitations that affect their suitability for sanitary facilities. Soils are rated for septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect sanitary facilities. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate

maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may be contaminated. Unsatisfactory performance of septic tank absorption fields, including excessively slow

absorption of effluent, surfacing of effluent, hillside seepage, and contamination of ground water, can affect public health.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of

excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey

soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials and Excavating

The soils of the survey area are rated in table 14 as a source of roadfill, sand, gravel, or topsoil. Normal compaction, minor processing, and other standard construction practices are assumed. The soils are also rated according to limitations that affect their suitability for shallow excavations. The ratings in the table are both verbal and numerical.

Rating class terms, as follows, are used to indicate the extent to which the soils are limited by soil features that affect their use as a source for roadfill, sand, gravel, or topsoil or their suitability for shallow excavations. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown

as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of the thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

**Water Management**

The soils of the survey area are rated in table 15 according to limitations that affect their suitability for water management. Soils are rated for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways. Restrictive features that affect each soil for the specified use are also listed in the table.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low

maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock, or other permeable material. Slope can affect the storage capacity of the reservoir area.

*Drainage* is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, permeability, depth to a water table, ponding, slope, and flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the likelihood that cutbanks will cave. The productivity of the soil after drainage is adversely affected by extreme

acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. The availability of drainage outlets is not considered in the ratings.

*Irrigation* is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to a water table, ponding, flooding, available water capacity, intake rate, permeability, erodibility, and slope. The construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the depth of the root zone, reaction, and the amount of salts, sodium, sulfur, lime, or gypsum.

*Terraces and diversions* are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, a water table, ponding, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, erodibility, an excessively coarse texture, and restricted permeability adversely affect maintenance.

*Grassed waterways* are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, a water table, slope, and depth to bedrock affect the construction of grassed waterways. Erodibility, soil moisture regime, available water capacity, restricted rooting depth, restricted permeability, and toxic substances, such as salts and sodium, affect the growth and maintenance of the grass after construction.

## Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 16 shows the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing

wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 mg/l. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 mg/l. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater through irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (slow rate treatment of wastewater and rapid infiltration of wastewater).

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown

as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Land application of manure and food-processing waste* not only disposes of waste material but also improves crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

*Land application of municipal sewage sludge* not only disposes of waste material but also improves crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells

that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge.

*Disposal of wastewater by irrigation* not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also improves crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals.

*Slow rate treatment of wastewater* is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water percolates to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not

allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

*Rapid infiltration of wastewater* is a process in which wastewater applied in a level basin at a rate of 4 to 120

inches per week percolates through the soil, eventually reaching the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. A water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Grain sorghum	Sorghum grazed	Tall fescue seed	Wheat grazeout	Winter wheat
		<u>Bu</u>	<u>Tons</u>	<u>Lbs</u>	<u>Tons</u>	<u>Bu</u>
70030:						
Noark-----	4s	47.00	4.00	194.00	3.10	22.00
Clarksville-----	4s	47.00	4.00	194.00	3.10	22.00
70031:						
Hailey-----	7e	---	---	---	---	---
Rueter-----	7e	---	---	---	---	---
70032:						
Tonti-----	2e	59.00	5.00	243.00	3.90	28.00
70033:						
Moko-----	6s	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
70034:						
Moko-----	7s	---	---	---	---	---
Blueye-----	7e	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
70035:						
Sonsac-----	6e	---	1.60	78.00	1.20	---
Gobbler-----	6e	---	3.20	156.00	2.50	---
70036:						
Sonsac-----	7e	---	---	---	---	---
Gobbler-----	7e	---	---	---	---	---
70037:						
Sonsac-----	7s	---	---	---	---	---
Rueter-----	7s	---	---	---	---	---
70038:						
Moko-----	6s	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
70050:						
Rueter-----	6e	---	3.80	185.00	2.90	---
Goss-----	6e	---	3.80	185.00	2.90	---
70051:						
Hailey-----	7e	---	---	---	---	---
Rueter-----	7e	---	---	---	---	---
71252:						
Britwater-----	3e	66.00	5.60	272.00	4.30	31.00
73070:						
Sowcoon-----	5w	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Grain sorghum	Sorghum grazed	Tall fescue seed	Wheat grazeout	Winter wheat
		<u>Bu</u>	<u>Tons</u>	<u>Lbs</u>	<u>Tons</u>	<u>Bu</u>
73113: Scholten-----	4s	---	3.20	156.00	2.50	---
73114: Captina-----	2e	85.00	7.20	350.00	5.60	40.00
73115: Horneybuck-----	3e	68.00	5.80	282.00	4.50	32.00
Tonti-----	3e	54.00	4.60	224.00	3.50	25.00
73116: Pomme-----	2e	73.00	6.20	301.00	4.80	34.00
73117: Clarksville-----	6e	---	3.40	165.00	2.60	---
Scholten-----	6s	---	2.60	126.00	2.00	---
Hailey-----	6e	---	3.00	146.00	2.30	---
73118: Rueter-----	6e	---	3.20	156.00	2.50	---
Goss-----	6e	---	3.20	156.00	2.50	---
73119: Rueter-----	7e	---	---	---	---	---
Hailey-----	7e	---	---	---	---	---
73120: Rueter-----	7e	---	---	---	---	---
Gasconade-----	7s	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
73121: Scholten-----	4s	---	3.20	156.00	2.50	---
Tonti-----	3e	54.00	4.60	224.00	3.50	25.00
73122: Gasconade-----	7s	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
73123: Mano-----	6e	---	5.40	262.00	4.20	---
Ocie-----	6e	---	4.60	224.00	3.50	---
73124: Alred-----	7e	---	---	---	---	---
Ocie-----	7e	---	---	---	---	---
73125, 73126: Knobby-----	7s	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---
73127: Gobbler-----	4e	52.00	4.40	214.00	3.40	24.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Grain sorghum	Sorghum grazed	Tall fescue seed	Wheat grazeout	Winter wheat
		<u>Bu</u>	<u>Tons</u>	<u>Lbs</u>	<u>Tons</u>	<u>Bu</u>
73127: Sonsac-----	4e	---	2.80	136.00	2.20	---
73128: Gobbler-----	6e	---	---	---	---	---
Sonsac-----	6e	---	---	---	---	---
73129: Gasconade-----	6s	---	---	---	---	---
73130, 73131, 73132: Gasconade-----	7s	---	---	---	---	---
73133: Alred-----	4e	71.00	6.00	292.00	4.60	33.00
Ocie-----	3e	61.00	5.20	253.00	4.00	29.00
73134: Alred-----	6e	---	---	---	---	---
Ocie-----	6e	---	---	---	---	---
Sonsac-----	7s	---	---	---	---	---
74638: Waben-----	3s	52.00	4.40	214.00	3.40	24.00
74639: Waben-----	6e	---	3.80	185.00	2.90	---
74640: Hootentown-----	1	99.00	8.40	408.00	6.50	46.00
75401: Horsecreek-----	2w	94.00	8.00	389.00	6.20	44.00
Jamesfin-----	2w	94.00	8.00	389.00	6.20	44.00
75402: Pinerun-----	3w	61.00	5.20	253.00	4.00	29.00
75403: Cedargap-----	3s	47.00	4.00	194.00	3.10	22.00
Woolly-----	3s	57.00	4.80	233.00	3.70	26.00
75404: Pinerun-----	3s	52.00	4.40	214.00	3.40	24.00
75405: Pinerun-----	3s	52.00	4.40	214.00	3.40	24.00
Waben-----	3s	57.00	4.80	233.00	3.70	26.00
99000. Pits, quarries						
99001. Water						
99005. Landfills	8s	---	---	---	---	---

Table 6.--Pasture and Hayland Groups and Yields per Acre of Hay and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Pasture and hayland group	Caucasian  bluestem hay	Improved  bermudagrass hay	Orchardgrass- alfalfa hay	Tall fescue- hay	Tall fescue- red clover hay
		Tons	Tons	Tons	Tons	Tons
70030: Noark-----	GrU	3.0	2.9	2.3	2.0	2.0
Clarksville-----	GrU	3.0	2.9	2.3	2.0	2.0
70031: Hailey-----	GrU	---	---	---	---	---
Rueter-----	GrU	---	---	---	---	---
70032: Tonti-----	LyP	3.0	2.9	2.9	2.5	2.5
70033: Moko-----	ShU	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
70034: Moko-----	ShU	---	---	---	---	---
Blueye-----	MdU	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
70035: Sonsac-----	MdU	0.9	0.9	0.9	0.8	0.8
Gobbler-----	GrU	2.3	2.3	1.9	1.6	1.6
70036: Sonsac-----	MdU	---	---	---	---	---
Gobbler-----	GrU	---	---	---	---	---
70037: Sonsac-----	MdU	---	---	---	---	---
Rueter-----	GrU	---	---	---	---	---
70038: Moko-----	ShU	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
70050: Rueter-----	GrU	2.8	2.8	2.2	1.9	1.9
Goss-----	GrU	2.8	2.8	2.2	1.9	1.9
70051: Hailey-----	GrU	---	---	---	---	---
Rueter-----	GrU	---	---	---	---	---
71252: Britwater-----	GrU	4.1	4.1	3.3	2.8	2.8
73070: Sowcoon-----	WLO	---	3.7	---	3.2	3.2

Table 6.--Pasture and Hayland Groups and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Pasture and hayland group	Caucasian  bluestem hay	Improved  bermudagrass  hay	Orchardgrass- alfalfa hay	Tall fescue hay	Tall fescue- red clover hay
		Tons	Tons	Tons	Tons	Tons
73113: Scholten-----	GrP	1.9	1.9	1.9	1.6	1.6
73114: Captina-----	LyP	4.2	4.2	4.2	3.6	3.6
73115: Horneybuck-----	WtP	3.4	3.4	3.4	2.9	2.9
Tonti-----	LyP	2.7	2.7	2.7	2.3	2.3
73116: Pomme-----	LyU	3.6	3.6	3.6	3.1	3.1
73117: Clarksville-----	GrU	2.6	2.5	2.0	1.7	1.7
Scholten-----	GrP	1.5	1.5	1.5	1.3	1.3
Hailey-----	GrU	2.3	2.3	1.7	1.5	1.5
73118: Rueter-----	GrU	2.4	2.4	1.9	1.6	1.6
Goss-----	GrU	2.4	2.4	1.9	1.6	1.6
73119: Rueter-----	GNS	---	---	---	---	---
Hailey-----	GNS	---	---	---	---	---
73120: Rueter-----	GNS	---	---	---	---	---
Gasconade-----	GNS	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
73121: Scholten-----	GrP	1.9	1.9	1.9	1.6	1.6
Tonti-----	LyP	2.7	2.7	2.7	2.3	2.3
73122: Gasconade-----	GNS	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
73123: Mano-----	GrU	4.1	4.1	3.1	2.7	2.7
Ocie-----	GrU	3.5	3.5	2.7	2.3	2.3
73124: Alred-----	GrU	---	---	---	---	---
Ocie-----	GrU	---	---	---	---	---
73125, 73126: Knobby-----	ShU	---	---	---	---	---
Rock outcrop-----	GNS	---	---	---	---	---
73127: Gobbler-----	GrU	3.3	3.2	2.6	2.2	2.2

Table 6.--Pasture and Hayland Groups and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Pasture and hayland group	Caucasian  bluestem hay	Improved  bermudagrass hay	Orchardgrass- alfalfa hay	Tall fescue hay	Tall fescue- red clover hay
		<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>
73127: Sonsac-----	MdU	1.6	1.6	1.6	1.4	1.4
73128: Gobbler-----	GrU	---	---	---	---	---
Sonsac-----	MdU	---	---	---	---	---
73129, 73130, 73131, 73132: Gasconade-----	ShU	---	---	---	---	---
73133: Alred-----	GrU	4.5	4.4	3.5	3.0	3.0
Ocie-----	GrU	3.9	3.8	3.0	2.6	2.6
73134: Alred-----	GrU	---	---	---	---	---
Ocie-----	GrU	---	---	---	---	---
Sonsac-----	MdU	---	---	---	---	---
74638: Waben-----	GrU	3.3	3.2	2.6	2.2	2.2
74639: Waben-----	GrU	2.9	2.9	2.2	1.9	1.9
74640: Hootentown-----	LyO	4.9	4.9	4.9	4.2	4.2
75401: Horsecreek-----	LyO	4.7	4.7	4.7	4.0	4.0
Jamesfin-----	LyO	4.7	4.7	4.7	4.0	4.0
75402: Pinerun-----	GrO	3.0	3.0	3.0	2.6	2.6
75403: Cedargap-----	GrO	2.3	2.3	2.3	2.0	2.0
Woolly-----	GrO	2.8	2.8	2.8	2.4	2.4
75404: Pinerun-----	GrO	2.6	2.6	2.6	2.2	2.2
75405: Pinerun-----	GrO	2.6	2.6	2.6	2.2	2.2
Waben-----	GrU	3.6	3.5	2.8	2.4	2.4
99000. Pits, quarries						
99001. Water						
99005. Landfills						

Table 7.--Forest Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site	Volume	
		index	of wood fiber	
			cu ft/ac	
70030:				
Noark-----	black oak-----	65	43	black oak, northern
	eastern redcedar----	40	43	red oak, white oak
	northern red oak----	66	43	
	shortleaf pine-----	60	86	
	southern red oak----	66	43	
	white oak-----	58	43	
Clarksville-----	black oak-----	62	43	black oak, northern
	northern red oak----	61	43	red oak, shortleaf
	shortleaf pine-----	61	86	pine, white oak
	white oak-----	55	43	
70031:				
Hailey-----	black oak-----	---	---	black oak, northern
	hickory-----	---	---	red oak, shortleaf
	northern red oak----	65	43	pine, white oak
	post oak-----	---	---	
	white oak-----	62	43	
Rueter-----	black oak-----	61	43	black oak,
	northern red oak----	61	43	shortleaf pine,
	white oak-----	58	43	white oak
70032:				
Tonti-----	black oak-----	60	43	black oak,
	post oak-----	45	29	shortleaf pine
	shortleaf pine-----	54	86	
70033:				
Moko-----	eastern redcedar----	30	29	eastern redcedar
Rock outcrop.				
70034:				
Moko-----	eastern redcedar----	30	29	eastern redcedar
Blueye-----	blackjack oak-----	---	---	eastern redcedar
	eastern redcedar----	35	29	
	post oak-----	---	---	
Rock outcrop.				
70035, 70036:				
Sonsac-----	black oak-----	54	43	black oak, eastern
	post oak-----	45	29	redcedar,
	white oak-----	42	29	shortleaf pine
Gobbler-----	black oak-----	58	43	black oak,
	northern red oak----	---	---	shortleaf pine
	white oak-----	57	43	
70037:				
Sonsac-----	black oak-----	54	43	black oak, eastern
	post oak-----	45	29	redcedar,
	white oak-----	42	29	shortleaf pine

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site	Volume	
		index	of wood fiber cu ft/ac	
70037:				
Rueter-----	black oak-----	74	57	black oak, white
	northern red oak----	---	---	oak
	white oak-----	75	57	
70038:				
Moko-----	eastern redcedar----	30	29	eastern redcedar
Rock outcrop.				
70050:				
Rueter-----	black oak-----	74	57	black oak, white
	northern red oak----	---	---	oak
	post oak-----	---	---	
	white oak-----	75	57	
Goss-----	black oak-----	57	43	black oak,
	blackjack oak-----	---	---	shortleaf pine,
	post oak-----	50	43	white oak
	shortleaf pine-----	57	86	
	white oak-----	55	43	
70051:				
Hailey-----	black oak-----	---	---	black oak, northern
	hickory-----	---	---	red oak, shortleaf
	northern red oak----	65	43	pine, white oak
	white oak-----	62	43	
Rueter-----	black oak-----	74	56	black oak, white
	northern red oak----	---	---	oak
	white oak-----	75	56	
71252:				
Britwater-----	eastern redcedar----	64	57	northern red oak,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine-----	70	114	white oak
73070:				
Sowcoon-----	black oak-----	65	43	black oak, northern
	northern red oak----	70	57	red oak, shortleaf
	shortleaf pine-----	---	---	pine
	white oak-----	66	43	
73113:				
Scholten-----	black oak-----	45	29	black oak, eastern
	hickory-----	---	---	redcedar,
	post oak-----	45	29	shortleaf pine
73114:				
Captina-----	black oak-----	59	43	black oak,
	blackjack oak-----	---	---	shortleaf pine
	post oak-----	51	43	
	shortleaf pine-----	60	86	
73115:				
Horneybuck-----	black oak-----	57	43	black oak,
	post oak-----	---	---	shortleaf pine,
	white oak-----	55	43	white oak
Tonti-----	black oak-----	60	43	black oak,
	post oak-----	45	29	shortleaf pine
	shortleaf pine-----	54	86	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site	Volume	
		index	of wood fiber	
			cu ft/ac	
73116:				
Pomme-----	northern red oak----	65	43	black walnut,
	white oak-----	65	43	shortleaf pine,
				white oak
73117:				
Clarksville-----	black oak-----	62	43	black oak, northern
	northern red oak----	61	43	red oak, shortleaf
	shortleaf pine-----	61	86	pine, white oak
	white oak-----	55	43	
Scholten-----	black oak-----	45	29	black oak,
	hickory-----	---	---	shortleaf pine,
	post oak-----	45	29	white oak
Hailey-----	black oak-----	---	---	black oak, northern
	hickory-----	---	---	red oak, shortleaf
	northern red oak----	65	43	pine, white oak
	post oak-----	---	---	
	white oak-----	62	43	
73118:				
Rueter-----	black oak-----	74	56	black oak, white
	post oak-----	---	---	oak
	white oak-----	75	56	
Goss-----	black oak-----	57	43	black oak,
	blackjack oak-----	---	---	shortleaf pine,
	post oak-----	50	43	white oak
	shortleaf pine-----	57	86	
	white oak-----	55	43	
73119:				
Rueter-----	black oak-----	74	56	black oak, white
	post oak-----	---	---	oak
	white oak-----	75	56	
Hailey-----	black oak-----	---	---	black oak, northern
	hickory-----	---	---	red oak, shortleaf
	northern red oak----	65	43	pine, white oak
	post oak-----	---	---	
	white oak-----	62	43	
73120:				
Rueter-----	black oak-----	74	57	black oak, white
	northern red oak----	---	---	oak
	post oak-----	---	---	
	white oak-----	75	57	
Gasconade-----	blackjack oak-----	---	---	eastern redcedar
	chinkapin oak-----	41	29	
	eastern redcedar----	29	29	
	post oak-----	---	---	
Rock outcrop.				
73121:				
Scholten-----	black oak-----	45	29	black oak,
	hickory-----	---	---	shortleaf pine,
	post oak-----	45	29	white oak

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site	Volume	
		index	of wood fiber	
			cu ft/ac	
73121: Tonti-----	black oak-----	60	43	black oak,  post oak-----
	shortleaf pine-----	45	29	shortleaf pine
		54	86	
73122: Gasconade-----	blackjack oak-----	---	---	eastern redcedar
	chinkapin oak-----	41	29	
	eastern redcedar-----	29	29	
	post oak-----	---	---	
Rock outcrop.				
73123: Mano-----	black oak-----	69	43	black oak, northern
	northern red oak-----	---	---	red oak, white oak
	white oak-----	66	43	
Ocie-----	black oak-----	60	43	black oak,  northern red oak-----
	white oak-----	55	43	shortleaf pine
		57	43	
73124: Alred-----	black oak-----	69	43	black oak,  shortleaf pine-----
	white oak-----	65	86	shortleaf pine,  white oak-----
		60	29	white oak
Ocie-----	black oak-----	60	43	black oak,  northern red oak-----
	white oak-----	55	43	shortleaf pine
		57	43	
73127: Gobbler-----	black oak-----	58	43	black oak,  northern red oak-----
	white oak-----	---	---	shortleaf pine
		57	43	
Sonsac-----	black oak-----	54	29	black oak, eastern  eastern redcedar-----
	post oak-----	40	43	redcedar,  white oak-----
		45	29	shortleaf pine
		42	29	
73128: Gobbler-----	black oak-----	54	29	black oak, eastern  northern red oak-----
	white oak-----	---	---	redcedar,  red oak, shortleaf
		57	43	pine
Sonsac-----	black oak-----	54	29	black oak, eastern  eastern redcedar-----
	post oak-----	40	43	redcedar,  white oak-----
		45	29	shortleaf pine
		42	29	
73129, 73130, 73131, 73132: Gasconade-----	blackjack oak-----	---	---	eastern redcedar
	chinkapin oak-----	41	29	
	eastern redcedar-----	29	29	
	post oak-----	---	---	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
73133:				
Alred-----	black oak-----	69	43	black oak,
	shortleaf pine-----	65	86	shortleaf pine,
	white oak-----	60	43	white oak
Ocie-----	black oak-----	60	43	---
	northern red oak----	55	43	
	white oak-----	57	43	
73134:				
Alred-----	northern red oak----	65	43	northern red oak,
	shortleaf pine-----	65	86	shortleaf pine,
	white oak-----	60	43	white oak
Ocie-----	black oak-----	60	43	black oak,
	northern red oak----	55	43	shortleaf pine
	white oak-----	57	43	
Sonsac-----	black oak-----	54	43	black oak, eastern
	post oak-----	45	29	redcedar,
	white oak-----	42	29	shortleaf pine
74638, 74639:				
Waben-----	black oak-----	71	57	black oak, northern
	northern red oak----	66	57	red oak, shortleaf
	shortleaf pine-----	70	114	pine, white oak
	white oak-----	66	43	
74640:				
Hootentown-----	American sycamore----	---	---	black walnut,
	black walnut-----	---	---	northern red oak,
	common hackberry----	---	---	white ash, white
	green ash-----	70	57	oak
	red maple-----	---	---	
	white oak-----	---	---	
75401:				
Horsecreek-----	American elm-----	---	---	black walnut,
	American sycamore----	---	---	eastern
	Shumard's oak-----	70	57	cottonwood, white
	black walnut-----	---	---	ash
	common hackberry----	---	---	
	green ash-----	---	---	
	pin oak-----	70	57	
	red maple-----	---	---	
Jamesfin-----	American sycamore----	---	---	black walnut, green
	black walnut-----	---	---	ash, pecan
	cottonwood-----	---	---	
	green ash-----	85	57	
	pecan-----	---	---	
	river birch-----	---	---	
75402:				
Pinerun-----	American sycamore----	---	---	black oak, black
	black oak-----	60	43	walnut, green ash,
	black walnut-----	---	---	northern red oak
	green ash-----	---	---	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site	Volume	
		index	of wood fiber	
			cu ft/ac	
75403:				
Cedargap-----	American sycamore----	---	---	black oak, shortleaf pine
	black oak-----	66	43	
	chinkapin oak-----	---	---	
	northern red oak----	58	43	
Woolly-----	American sycamore----	---	0	American sycamore, black walnut, shortleaf pine
	black oak-----	---	0	
	black walnut-----	---	0	
	white oak-----	60	43	
75404:				
Pinerun-----	American sycamore----	90	114	black oak, black walnut, green ash, northern red oak
	black oak-----	60	43	
	black walnut-----	---	---	
	green ash-----	---	---	
75405:				
Pinerun-----	American sycamore----	90	114	black oak, black walnut, green ash, northern red oak
	black oak-----	60	43	
	black walnut-----	---	---	
	green ash-----	---	---	
Waben-----	black oak-----	71	57	black oak, black walnut, northern red oak, shortleaf pine, white oak
	northern red oak----	66	57	
	shortleaf pine-----	70	114	
	white oak-----	66	57	

Table 8a.--Forestland Management

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Limited		Limited		Not limited		Limited		Moderately limited	
	~small stones	0.86	~small stones	0.86			~small stones	0.87	~slippage potential	0.50
	(limited)		(limited)				(limited)		(moderately limited)	
			~slope	0.10						
			(slightly limited)							
Clarksville----	Moderately limited		Moderately limited		Not limited		Slightly limited		Moderately limited	
	~small stones	0.42	~small stones	0.42			~small stones	0.30	~slippage potential	0.50
	(moderately limited)		(moderately limited)				(slightly limited)		(moderately limited)	
			~slope	0.10						
			(slightly limited)							
70031:										
Hailey-----	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~very sandy (surface)	0.50	~slope	0.99	~slope	0.60	~slope	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~small stones	0.20	~very sandy (surface)	0.50	~very sandy (surface)	0.50	~large stones	0.03	~slippage potential	0.90
	(slightly limited)		(moderately limited)		(moderately limited)		(slightly limited)		(limited)	
	~slope	0.14	~large stones	0.30					~very sandy (surface)	0.50
	(slightly limited)		(moderately limited)						(moderately limited)	
Rueter-----	Limited		Limited		Moderately limited		Limited		Very limited	
	~small stones	0.73	~slope	0.99	~slope	0.60	~small stones	0.73	~slope	1.00
	(limited)		(limited)		(moderately limited)		(limited)		(very limited)	
	~slope	0.14	~small stones	0.73			~slope	0.60	~slippage potential	0.50
	(slightly limited)		(limited)				(moderately limited)		(moderately limited)	
70032:										
Tonti-----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Slightly limited	
	~small stones	0.04	~small stones	0.04	~seasonal wetness	0.20	~seasonal wetness	0.20	~seasonal wetness	0.20
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
70033:										
Moko-----	Moderately limited		Very limited		Moderately limited		Very limited		Limited	
	~stickiness (surface)	0.50	~restrictive layer	1.00	~stickiness (surface)	0.50	~restrictive layer	1.00	~slope	0.68
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(limited)	
	~large stones	0.30	~large stones	0.60			~stickiness (surface)	0.50	~slippage potential	0.50
	(moderately limited)		(moderately limited)				(moderately limited)		(moderately limited)	
			~stickiness (surface)	0.50			~large stones	0.30	~stickiness (surface)	0.50
			(moderately limited)				(moderately limited)		(moderately limited)	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Limited		Very limited		Limited		Limited		Very limited	
	~small stones	0.86	~slope	1.00	~slope	0.87	~slope	0.87	~slope	1.00
	(limited)		(very limited)		(limited)		(limited)		(very limited)	
	~slope	0.23	~small stones	0.86			~small stones	0.87	~slippage potential	0.50
	(slightly limited)		(limited)				(limited)		(moderately limited)	
Blueye-----	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.60	~slope	0.87	~slope	0.42	~small stones	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.10	~small stones	0.60			~slope	0.42		
	(slightly limited)		(moderately limited)				(moderately limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Slightly limited		Limited		Moderately limited		Slightly limited		Very limited	
	~slope	0.05	~slope	0.72	~low strength	0.50	~slope	0.20	~slope	1.00
	(slightly limited)		(limited)		(moderately limited)		(slightly limited)		(very limited)	
	~small stones	0.00	~small stones	0.00	~slope	0.20			~slippage potential	0.50
	(slightly limited)		(slightly limited)		(slightly limited)				(moderately limited)	
			~large stones	0.00					~low strength	0.50
			(slightly limited)						(moderately limited)	
Gobbler-----	Moderately limited		Limited		Slightly limited		Slightly limited		Very limited	
	~small stones	0.42	~slope	0.72	~slope	0.20	~small stones	0.30	~slope	1.00
	(moderately limited)		(limited)		(slightly limited)		(slightly limited)		(very limited)	
	~slope	0.05	~small stones	0.42			~slope	0.20		
	(slightly limited)		(moderately limited)				(slightly limited)			
70036:										
Sonsac-----	Limited		Very limited		Limited		Limited		Very limited	
	~small stones	0.86	~slope	1.00	~slope	0.79	~small stones	0.87	~slope	1.00
	(limited)		(very limited)		(limited)		(limited)		(very limited)	
	~slope	0.20	~small stones	0.86			~slope	0.79	~slippage potential	0.50
	(slightly limited)		(limited)				(limited)		(moderately limited)	
Gobbler-----	Very limited		Limited		Moderately limited		Limited		Very limited	
	~small stones	0.99	~small stones	0.99	~slope	0.60	~small stones	1.00	~slope	1.00
	(limited)		(limited)		(moderately limited)		(limited)		(very limited)	
	~slope	0.14	~slope	0.99			~slope	0.60		
	(slightly limited)		(limited)				(moderately limited)			
			~surface stones	0.45						
			(moderately limited)							

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70037:										
Sonsac-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~small stones	0.73	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.60	~small stones	0.73			~small stones	0.73		
	(moderately limited)		(limited)				(limited)			
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~small stones	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.60	~small stones	1.00	~very sandy (surface)	0.50	~small stones	1.00	~very sandy (surface)	0.50
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
	~very sandy (surface)	0.50	~very sandy (surface)	0.50						
	(moderately limited)		(moderately limited)							
70038:										
Moko-----	Limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~large stones	0.68	~large stones >35%	1.00	~stickiness (surface)	0.50	~restrictive layer	1.00	~slippage potential	0.50
	(limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
	~stickiness (surface)	0.50	~restrictive layer	1.00			~large stones	0.68	~stickiness (surface)	0.50
	(moderately limited)		(very limited)				(limited)		(moderately limited)	
	~small stones	0.02	~stickiness (surface)	0.50			~stickiness (surface)	0.50		
	(slightly limited)		(moderately limited)				(moderately limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70050:										
Rueter-----	Moderately limited		Moderately limited		Not limited		Slightly limited		Limited	
	~small stones	0.42	~slope	0.47			~small stones	0.30	~slope	0.76
	(moderately limited)		(moderately limited)				(slightly limited)		(limited)	
			~small stones	0.42					~slippage potential	0.50
			(moderately limited)						(moderately limited)	
Goss-----	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones	0.17	~slope	0.47	~low strength	0.50			~slope	0.76
	(slightly limited)		(moderately limited)		(moderately limited)				(limited)	
			~small stones	0.17					~low strength	0.50
			(slightly limited)						(moderately limited)	
70051:										
Hailey-----	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.33	~slope	0.99	~slope	0.60	~slope	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.14	~small stones	0.33			~small stones	0.15	~slippage potential	0.90
	(slightly limited)		(moderately limited)				(slightly limited)		(limited)	
	~large stones	0.03	~large stones	0.30			~large stones	0.03		
	(slightly limited)		(moderately limited)				(slightly limited)			

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70051:										
Rueter-----	Very limited		Very limited		Moderately limited		Very limited		Very limited	
	~small stones	1.00	~small stones	1.00	~slope	0.60	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~very sandy (surface)	0.50	~slope	0.99	~very sandy (surface)	0.50	~slope	0.60	~very sandy (surface)	0.50
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~slope	0.14	~very sandy (surface)	0.50					~slippage potential	0.50
	(slightly limited)		(moderately limited)						(moderately limited)	
71252:										
Britwater-----	Slightly limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
	~small stones	0.04	~slope	0.10	~low strength	0.50			~slippage potential	0.50
	(slightly limited)		(slightly limited)		(moderately limited)				(moderately limited)	
			~small stones	0.04					~low strength	0.50
			(slightly limited)						(moderately limited)	
73070:										
Sowcoon-----	Limited		Limited		Limited		Limited		Very limited	
	~seasonally ponded	0.80	~seasonally ponded	0.80	~seasonally ponded	0.80	~seasonally ponded	0.80	~ponded (wetness)	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
					~low strength	0.50	~seasonal wetness	0.29	~low strength	0.50
					(moderately limited)		(slightly limited)		(moderately limited)	
					~seasonal wetness	0.29			~seasonal wetness	0.29
					(slightly limited)				(slightly limited)	
73113:										
Scholten-----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Moderately limited	
	~small stones	0.24	~small stones	0.24	~seasonal wetness	0.20	~seasonal wetness	0.20	~slippage potential	0.50
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)	
			~slope	0.10			~small stones	0.01	~seasonal wetness	0.20
			(slightly limited)				(slightly limited)		(slightly limited)	
73114:										
Captina-----	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength	0.50	~seasonal wetness	0.25	~low strength	0.50
					(moderately limited)		(slightly limited)		(moderately limited)	
					~seasonal wetness	0.25			~seasonal wetness	0.25
					(slightly limited)				(slightly limited)	
73115:										
Horneybuck-----	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength	0.50	~seasonal wetness	0.26	~low strength	0.50
					(moderately limited)		(slightly limited)		(moderately limited)	
					~seasonal wetness	0.26			~seasonal wetness	0.26
					(slightly limited)				(slightly limited)	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73115:										
Tonti-----	Not limited		Not limited		Slightly limited		Slightly limited		Slightly limited	
					~seasonal wetness	0.22	~seasonal wetness	0.22	~seasonal wetness	0.22
					(slightly limited)		(slightly limited)		(slightly limited)	
73116:										
Pomme-----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~slippage potential	0.50
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
73117:										
Clarksville----	Very limited		Limited		Not limited		Limited		Moderately limited	
	~small stones	0.99	~small stones	0.99			~small stones	1.00	~slope	0.30
	(limited)		(limited)				(limited)		(moderately limited)	
	~surface stones	0.30	~surface stones	0.66					~surface stones	0.30
	(slightly limited)		(limited)						(slightly limited)	
			~slope	0.30						
			(slightly limited)							
Scholten-----	Moderately limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~small stones	0.42	~surface stones	0.66	~seasonal wetness	0.20	~small stones	0.30	~slope	0.30
	(moderately limited)		(limited)		(slightly limited)		(slightly limited)		(moderately limited)	
	~surface stones	0.30	~small stones	0.42			~seasonal wetness	0.20	~surface stones	0.30
	(slightly limited)		(moderately limited)				(slightly limited)		(slightly limited)	
			~slope	0.30					~seasonal wetness	0.20
			(slightly limited)						(slightly limited)	
Hailey-----	Limited		Limited		Not limited		Limited		Moderately limited	
	~small stones	0.86	~small stones	0.86			~small stones	0.87	~slope	0.30
	(limited)		(limited)				(limited)		(moderately limited)	
	~surface stones	0.30	~surface stones	0.66					~surface stones	0.30
	(slightly limited)		(limited)						(slightly limited)	
			~slope	0.30						
			(slightly limited)							
73118:										
Rueter-----	Moderately limited		Moderately limited		Not limited		Slightly limited		Limited	
	~small stones	0.42	~slope	0.47			~small stones	0.30	~slope	0.76
	(moderately limited)		(moderately limited)				(slightly limited)		(limited)	
			~small stones	0.42					~slippage potential	0.50
			(moderately limited)						(moderately limited)	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73118:										
Goss-----	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones	0.17	~slope	0.47	~low strength	0.50			~slope	0.76
	(slightly limited)		(moderately limited)		(moderately limited)				(limited)	
			~small stones	0.17					~low strength	0.50
			(slightly limited)						(moderately limited)	
73119:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~small stones	0.99	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.52	~small stones	0.99			~small stones	1.00	~slippage potential	0.50
	(moderately limited)		(limited)				(limited)		(moderately limited)	
Hailey-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~slope	0.52	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	0.46	~small stones	0.46			~small stones	0.38	~slippage potential	0.90
	(moderately limited)		(moderately limited)				(moderately limited)		(limited)	
	~large stones	0.03	~large stones	0.30			~large stones	0.03		
	(slightly limited)		(moderately limited)				(slightly limited)			
73120:										
Rueter-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~small stones	0.86	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.52	~small stones	0.86			~small stones	0.87	~slippage potential	0.50
	(moderately limited)		(limited)				(limited)		(moderately limited)	
73120:										
Gasconade-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~stickiness (surface)	0.50	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.46	~restrictive layer	1.00	~stickiness (surface)	0.50	~restrictive layer	1.00	~stickiness (surface)	0.50
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
	~large stones	0.03	~stickiness (surface)	0.50			~stickiness (surface)	0.50	~slippage potential	0.50
	(slightly limited)		(moderately limited)				(moderately limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73121:										
Scholten-----	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength	0.50	~seasonal wetness	0.22	~slippage potential	0.50
					(moderately limited)		(slightly limited)		(moderately limited)	
					~seasonal wetness	0.22			~low strength	0.50
					(slightly limited)				(moderately limited)	
									~seasonal wetness	0.22
									(slightly limited)	
Tonti-----	Not limited		Not limited		Slightly limited		Slightly limited		Moderately limited	
					~seasonal wetness	0.23	~seasonal wetness	0.23	~slippage potential	0.50
					(slightly limited)		(slightly limited)		(moderately limited)	
									~seasonal wetness	0.23
									(slightly limited)	
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~stickiness (surface)	0.50	~restrictive layer	1.00	~stickiness (surface)	0.50	~restrictive layer	1.00	~stickiness (surface)	0.50
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
	~small stones	0.14	~stickiness (surface)	0.50			~stickiness (surface)	0.50		
	(slightly limited)		(moderately limited)				(moderately limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Slightly limited		Moderately limited		Not limited		Not limited		Moderately limited	
	~small stones	0.17	~slope	0.34					~slippage potential	0.50
	(slightly limited)		(moderately limited)						(moderately limited)	
			~small stones	0.17					~slope	0.45
			(slightly limited)						(moderately limited)	
Ocie-----	Slightly limited		Moderately limited		Not limited		Not limited		Moderately limited	
	~small stones	0.19	~slope	0.34					~slippage potential	0.50
	(slightly limited)		(moderately limited)						(moderately limited)	
			~small stones	0.19					~slope	0.45
			(slightly limited)						(moderately limited)	
73124:										
Alred-----	Moderately limited		Very limited		Limited		Limited		Very limited	
	~small stones	0.60	~slope	1.00	~slope	0.68	~slope	0.68	~slope	1.00
	(moderately limited)		(very limited)		(limited)		(limited)		(very limited)	
	~slope	0.16	~small stones	0.60			~small stones	0.60		
	(slightly limited)		(moderately limited)				(moderately limited)			
			~surface stones	0.02						
			(slightly limited)							

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73124:										
Ocie-----	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~slope	0.14	~slope	0.99	~slope	0.60	~slope	0.60	~slope	1.00
	(slightly limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~small stones	0.08	~small stones	0.08	~low strength	0.50			~slippage potential	0.50
	(slightly limited)		(slightly limited)		(moderately limited)				(moderately limited)	
			~surface stones	0.02					~low strength	0.50
			(slightly limited)						(moderately limited)	
73125:										
Knobby-----	Slightly limited		Very limited		Not limited		Very limited		Moderately limited	
	~small stones	0.14	~restrictive layer	1.00			~restrictive layer	1.00	~slippage potential	0.50
	(slightly limited)		(very limited)				(very limited)		(moderately limited)	
	~large stones	0.03	~slope	0.34			~large stones	0.03	~slope	0.45
	(slightly limited)		(moderately limited)				(slightly limited)		(moderately limited)	
			~large stones	0.30						
			(moderately limited)							
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Slightly limited		Very limited		Limited		Very limited		Very limited	
	~slope	0.25	~slope	1.00	~slope	0.91	~restrictive layer	1.00	~slope	1.00
	(slightly limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~small stones	0.03	~restrictive layer	1.00			~slope	0.91	~slippage potential	0.50
	(slightly limited)		(very limited)				(limited)		(moderately limited)	
			~large stones	0.15						
			(slightly limited)							
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Slightly limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
	~small stones	0.00	~slope	0.10	~low strength	0.50			~slippage potential	0.50
	(slightly limited)		(slightly limited)		(moderately limited)				(moderately limited)	
			~small stones	0.00					~low strength	0.50
			(slightly limited)						(moderately limited)	
Sonsac-----	Not limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
			~slope	0.20	~low strength	0.50			~slippage potential	0.50
			(slightly limited)		(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
									~slope	0.15
									(slightly limited)	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73128:										
Gobbler-----	Slightly limited		Moderately limited		Not limited		Slightly limited		Limited	
	~small stones	0.24	~slope	0.47			~small stones	0.01	~slope	0.76
	(slightly limited)		(moderately limited)				(slightly limited)		(limited)	
			~small stones	0.24					~slippage potential	0.50
			(slightly limited)						(moderately limited)	
			~surface stones	0.02						
			(slightly limited)							
Sonsac-----	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones	0.13	~slope	0.47	~low strength	0.50			~slope	0.76
	(slightly limited)		(moderately limited)		(moderately limited)				(limited)	
			~small stones	0.13					~slippage potential	0.50
			(slightly limited)						(moderately limited)	
									~low strength	0.50
									(moderately limited)	
73129:										
Gasconade-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~stickiness (surface)	0.50	~stickiness (surface)	0.50	~stickiness (surface)	0.50	~stickiness (surface)	0.50	~stickiness (surface)	0.50
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	0.04	~slope	0.10					~slippage potential	0.50
	(slightly limited)		(slightly limited)						(moderately limited)	
			~small stones	0.04						
			(slightly limited)							
73130:										
Gasconade-----	Moderately limited		Moderately limited		Not limited		Moderately limited		Limited	
	~small stones	0.60	~small stones	0.60			~small stones	0.60	~slope	0.68
	(moderately limited)		(moderately limited)				(moderately limited)		(limited)	
			~slope	0.43					~slippage potential	0.50
			(moderately limited)						(moderately limited)	
73131:										
Gasconade-----	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.60	~slope	0.68	~stickiness (surface)	0.50	~small stones	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~stickiness (surface)	0.50	~small stones	0.60	~slope	0.15	~stickiness (surface)	0.50	~stickiness (surface)	0.50
	(moderately limited)		(moderately limited)		(slightly limited)		(moderately limited)		(moderately limited)	
	~slope	0.04	~stickiness (surface)	0.50			~slope	0.15		
	(slightly limited)		(moderately limited)				(slightly limited)			

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73132:										
Gasconade-----	Limited		Very limited		Limited		Very limited		Very limited	
	~large stones	0.60	~slope	1.00	~slope	0.72	~restrictive layer	1.00	~slope	1.00
	(limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~stickiness (surface)	0.50	~restrictive layer	1.00	~stickiness (surface)	0.50	~slope	0.72	~stickiness (surface)	0.50
	(moderately limited)		(very limited)		(moderately limited)		(limited)		(moderately limited)	
	~slope	0.18	~large stones >35%	0.99			~large stones	0.60	~slippage potential	0.50
	(slightly limited)		(very limited)				(limited)		(moderately limited)	
73133:										
Alred-----	Slightly limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
	~small stones	0.08	~slope	0.10	~low strength	0.50			~low strength	0.50
	(slightly limited)		(slightly limited)		(moderately limited)				(moderately limited)	
			~small stones	0.08						
			(slightly limited)							
Ocie-----	Not limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
			~slope	0.10	~low strength	0.50			~slippage potential	0.50
			(slightly limited)		(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
73134:										
Alred-----	Moderately limited		Moderately limited		Not limited		Slightly limited		Limited	
	~small stones	0.42	~slope	0.47			~small stones	0.30	~slope	0.76
	(moderately limited)		(moderately limited)				(slightly limited)		(limited)	
			~small stones	0.42						
			(moderately limited)							
			~surface stones	0.02						
			(slightly limited)							
Ocie-----	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones	0.13	~slope	0.47	~low strength	0.50			~slope	0.76
	(slightly limited)		(moderately limited)		(moderately limited)				(limited)	
			~small stones	0.13					~slippage potential	0.50
			(slightly limited)						(moderately limited)	
			~surface stones	0.02					~low strength	0.50
			(slightly limited)						(moderately limited)	
Sonsac-----	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones	0.08	~slope	0.47	~low strength	0.50			~slope	0.76
	(slightly limited)		(moderately limited)		(moderately limited)				(limited)	
			~surface stones	0.45					~low strength	0.50
			(moderately limited)						(moderately limited)	
			~small stones	0.08						
			(slightly limited)							

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
74638:										
Waben-----	Slightly limited		Slightly limited		Not limited		Slightly limited		Limited	
	~small stones	0.24	~small stones	0.24			~small stones	0.01	~slippage potential	0.90
	(slightly limited)		(slightly limited)				(slightly limited)		(limited)	
			~slope	0.10						
			(slightly limited)							
74639:										
Waben-----	Very limited		Very limited		Moderately limited		Very limited		Limited	
	~small stones	1.00	~small stones	1.00	~very sandy (surface)	0.50	~small stones	1.00	~slippage potential	0.90
	(very limited)		(very limited)		(moderately limited)		(very limited)		(limited)	
	~very sandy (surface)	0.50	~very sandy (surface)	0.50					~slope	0.76
	(moderately limited)		(moderately limited)						(limited)	
			~slope	0.47					~very sandy (surface)	0.50
			(moderately limited)						(moderately limited)	
74640:										
Hootentown----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~low strength	0.50
					(moderately limited)				(moderately limited)	
75401:										
Horsecreek-----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~flooding	0.60
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
Jamesfin-----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~flooding	0.60
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
75402:										
Pinerun-----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~flooding	0.60
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
75403:										
Cedargap-----	Limited		Limited		Not limited		Limited		Moderately limited	
	~small stones	0.73	~small stones	0.73			~small stones	0.73	~flooding	0.60
	(limited)		(limited)				(limited)		(moderately limited)	

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting suitability		Mechanical planting suitability		Harvest equipment operability		Mechanical site preparation (surface)		Road suitability (natural surface)	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75403:										
Woolly-----	Limited		Limited		Moderately limited		Limited		Moderately limited	
	~small stones	0.86	~small stones	0.86	~stickiness (surface)	0.50	~small stones	0.87	~flooding	0.60
	(limited)		(limited)		(moderately limited)		(limited)		(moderately limited)	
	~stickiness (surface)	0.50	~stickiness (surface)	0.50			~stickiness (surface)	0.50	~stickiness (surface)	0.50
	(moderately limited)		(moderately limited)				(moderately limited)		(moderately limited)	
75404:										
Pinerun-----	Slightly limited		Slightly limited		Not limited		Slightly limited		Moderately limited	
	~small stones	0.24	~small stones	0.24			~small stones	0.01	~flooding	0.60
	(slightly limited)		(slightly limited)				(slightly limited)		(moderately limited)	
75405:										
Pinerun-----	Moderately limited		Moderately limited		Not limited		Moderately limited		Moderately limited	
	~small stones	0.49	~small stones	0.49			~small stones	0.42	~flooding	0.60
	(moderately limited)		(moderately limited)				(moderately limited)		(moderately limited)	
Waben-----	Slightly limited		Slightly limited		Not limited		Slightly limited		Limited	
	~small stones	0.24	~small stones	0.24			~small stones	0.01	~slippage potential	0.90
	(slightly limited)		(slightly limited)				(slightly limited)		(limited)	
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forestland Management

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
70030:										
Noark-----	Moderately limited		Slightly limited		Not limited		Moderately limited		Not limited	
	~slope/erodibility	0.38	~slope/erodibility	0.12			~slippage potential	0.50		
	(moderately limited)		(slightly limited)				(moderately limited)			
Clarksville----	Slightly limited		Slightly limited		Not limited		Moderately limited		Slightly limited	
	~slope/erodibility	0.23	~slope/erodibility	0.12			~slippage potential	0.50	~droughty	0.00
	(slightly limited)		(slightly limited)				(moderately limited)		(slightly limited)	
70031:										
Hailey-----	Limited		Moderately limited		Not limited		Very limited		Very limited	
	~slope/erodibility	0.96	~slope/erodibility	0.49			~slope	1.00	~droughty	1.00
	(limited)		(moderately limited)				(very limited)		(very limited)	
							~slippage potential	0.90		
							(limited)			
							~very sandy (surface)	0.50		
							(moderately limited)			
Rueter-----	Very limited		Moderately limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility	1.00	~slope/erodibility	0.49			~slope	1.00	~droughty	0.15
	(very limited)		(moderately limited)				(very limited)		(slightly limited)	
							~slippage potential	0.50		
							(moderately limited)			
70032:										
Tonti-----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Not limited	
	~slope/erodibility	0.22	~slope/erodibility	0.04	~seasonal wetness	0.20	~seasonal wetness	0.20		
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)			
70033:										
Moko-----	Limited		Slightly limited		Not limited		Limited		Very limited	
	~slope/erodibility	0.69	~slope/erodibility	0.22			~slope	0.68	~droughty	1.00
	(limited)		(slightly limited)				(limited)		(very limited)	
							~slippage potential	0.50	~soil reaction	0.60
							(moderately limited)		(limited)	
							~stickiness (surface)	0.50		
							(moderately limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)	Potential erosion hazard (off-road/off-trail)	Soil rutting hazard	Log landing suitability	Potential seedling mortality
	Limitation	Value	Limitation	Value	Limitation
70034:					
Moko-----	Very limited		Limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.63	
	(very limited)		(limited)		
Blueye-----	Very limited		Moderately limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.43	
	(very limited)		(moderately limited)		
Rock outcrop---	Not rated		Not rated		Not rated
70035:					
Sonsac-----	Very limited		Moderately limited		Limited
	~slope/erodibility	1.00	~slope/erodibility	0.35	~low strength
	(very limited)		(moderately limited)		(limited)
Gobbler-----	Limited		Moderately limited		Not limited
	~slope/erodibility	0.69	~slope/erodibility	0.35	
	(limited)		(moderately limited)		
70036:					
Sonsac-----	Very limited		Moderately limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.59	
	(very limited)		(moderately limited)		
Gobbler-----	Very limited		Moderately limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.49	
	(very limited)		(moderately limited)		
70037:					
Sonsac-----	Very limited		Limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.98	
	(very limited)		(limited)		
Rueter-----	Very limited		Limited		Not limited
	~slope/erodibility	1.00	~slope/erodibility	0.98	
	(very limited)		(limited)		

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)	Potential erosion hazard (off-road/off-trail)	Soil rutting hazard	Log landing suitability	Potential seedling mortality
	Limitation	Value	Limitation	Value	Limitation
70038:					
Moko-----	Slightly limited		Slightly limited	Not limited	Moderately limited
	~slope/erodibility	0.23	~slope/erodibility	0.12	~slippage potential
	(slightly limited)		(slightly limited)		(moderately limited)
					~stickiness (surface)
					(moderately limited)
Rock outcrop---	Not rated		Not rated		Not rated
70050:					
Rueter-----	Moderately limited		Slightly limited	Not limited	Limited
	~slope/erodibility	0.46	~slope/erodibility	0.24	~slope
	(moderately limited)		(slightly limited)		(limited)
					~slippage potential
					(moderately limited)
Goss-----	Limited		Slightly limited	Limited	Limited
	~slope/erodibility	0.75	~slope/erodibility	0.24	~slope
	(limited)		(slightly limited)	~low strength	(limited)
					~slippage potential
					(moderately limited)
70051:					
Hailey-----	Limited		Moderately limited	Not limited	Very limited
	~slope/erodibility	0.96	~slope/erodibility	0.49	~slope
	(limited)		(moderately limited)		(very limited)
					~slippage potential
					(limited)
Rueter-----	Very limited		Moderately limited	Not limited	Very limited
	~slope/erodibility	1.00	~slope/erodibility	0.49	~slope
	(very limited)		(moderately limited)		(very limited)
					~slippage potential
					(moderately limited)
					~very sandy (surface)
					(moderately limited)
71252:					
Britwater-----	Limited		Slightly limited	Limited	Moderately limited
	~slope/erodibility	0.67	~slope/erodibility	0.12	~slippage potential
	(limited)		(slightly limited)	~low strength	(moderately limited)
					~low strength
					(moderately limited)

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73070:										
Sowcocon-----	Slightly limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility	0.22	~slope/erodibility	0.05	~low strength	0.80	~seasonally ponded	0.80		
	(slightly limited)		(slightly limited)		(limited)		(limited)			
					~seasonal wetness	0.29	~low strength	0.50		
					(slightly limited)		(moderately limited)			
							~seasonal wetness	0.29		
							(slightly limited)			
73113:										
Scholten-----	Moderately limited		Slightly limited		Slightly limited		Moderately limited		Not limited	
	~slope/erodibility	0.38	~slope/erodibility	0.12	~seasonal wetness	0.20	~slippage potential	0.50		
	(moderately limited)		(slightly limited)		(slightly limited)		(moderately limited)			
							~seasonal wetness	0.20		
							(slightly limited)			
73114:										
Captina-----	Slightly limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.22	~slope/erodibility	0.05	~low strength	0.80	~low strength	0.50		
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.25	~seasonal wetness	0.25		
					(slightly limited)		(slightly limited)			
73115:										
Horneybuck-----	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.10	~low strength	0.80	~low strength	0.50		
	(moderately limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.26	~seasonal wetness	0.26		
					(slightly limited)		(slightly limited)			
Tonti-----	Moderately limited		Slightly limited		Slightly limited		Slightly limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.10	~seasonal wetness	0.22	~seasonal wetness	0.22		
	(moderately limited)		(slightly limited)		(slightly limited)		(slightly limited)			
73116:										
Pomme-----	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.44	~slope/erodibility	0.08	~low strength	0.80	~slippage potential	0.50		
	(moderately limited)		(slightly limited)		(limited)		(moderately limited)			
							~low strength	0.50		
							(moderately limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73117:										
Clarksville----	Moderately limited		Slightly limited		Not limited		Moderately limited		Slightly limited	
	~slope/erodibility	0.31	~slope/erodibility	0.16			~slope	0.30	~droughty	0.18
	(moderately limited)		(slightly limited)				(moderately limited)		(slightly limited)	
							~surface stones	0.30		
							(slightly limited)			
Scholten-----	Moderately limited		Slightly limited		Slightly limited		Moderately limited		Not limited	
	~slope/erodibility	0.50	~slope/erodibility	0.16	~seasonal wetness	0.20	~slope	0.30		
	(moderately limited)		(slightly limited)		(slightly limited)		(moderately limited)			
							~surface stones	0.30		
							(slightly limited)			
							~seasonal wetness	0.20		
							(slightly limited)			
Hailey-----	Moderately limited		Slightly limited		Not limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.50	~slope/erodibility	0.16			~slope	0.30	~droughty	0.30
	(moderately limited)		(slightly limited)				(moderately limited)		(moderately limited)	
							~surface stones	0.30		
							(slightly limited)			
73118:										
Rueter-----	Moderately limited		Slightly limited		Not limited		Limited		Slightly limited	
	~slope/erodibility	0.46	~slope/erodibility	0.24			~slope	0.76	~droughty	0.03
	(moderately limited)		(slightly limited)				(limited)		(slightly limited)	
							~slippage potential	0.50		
							(moderately limited)			
Goss-----	Limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24	~low strength	0.80	~slope	0.76		
	(limited)		(slightly limited)		(limited)		(limited)			
							~low strength	0.50		
							(moderately limited)			
73119:										
Rueter-----	Very limited		Limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility	1.00	~slope/erodibility	0.94			~slope	1.00	~droughty	0.00
	(very limited)		(limited)				(very limited)		(slightly limited)	
							~slippage potential	0.50		
							(moderately limited)			
Hailey-----	Very limited		Limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	0.94			~slope	1.00	~droughty	1.00
	(very limited)		(limited)				(very limited)		(very limited)	
							~slippage potential	0.90		
							(limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73120:										
Rueter-----	Very limited		Limited		Not limited		Very limited		Not limited	
	~slope/erodibility	1.00	~slope/erodibility	0.94			~slope	1.00		
	(very limited)		(limited)				(very limited)			
							~slippage potential	0.50		
							(moderately limited)			
Gasconade-----	Very limited		Limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	0.88			~slope	1.00	~droughty	1.00
	(very limited)		(limited)				(very limited)		(very limited)	
							~slippage potential	0.50		
							(moderately limited)			
							~stickiness (surface)	0.50		
							(moderately limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.10	~low strength	0.80	~slippage potential	0.50		
	(moderately limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.22	~low strength	0.50		
					(slightly limited)		(moderately limited)			
							~seasonal wetness	0.22		
							(slightly limited)			
Tonti-----	Moderately limited		Slightly limited		Slightly limited		Moderately limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.10	~seasonal wetness	0.23	~slippage potential	0.50		
	(moderately limited)		(slightly limited)		(slightly limited)		(moderately limited)			
							~seasonal wetness	0.23		
							(slightly limited)			
73122:										
Gasconade-----	Very limited		Very limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	1.00			~slope	1.00	~droughty	1.00
	(very limited)		(very limited)				(very limited)		(very limited)	
							~stickiness (surface)	0.50	~soil reaction	0.00
							(moderately limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Very limited		Slightly limited		Not limited		Moderately limited		Not limited	
	~slope/erodibility	1.00	~slope/erodibility	0.18			~slippage potential	0.50		
	(very limited)		(slightly limited)				(moderately limited)			
							~slope	0.45		
							(moderately limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73123:										
Ocie-----	Moderately limited		Slightly limited		Not limited		Moderately limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.18			~slippage potential	0.50		
	(moderately limited)		(slightly limited)				(moderately limited)			
							~slope	0.45		
							(moderately limited)			
73124:										
Alred-----	Very limited		Moderately limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility	1.00	~slope/erodibility	0.53			~slope	1.00	~droughty	0.03
	(very limited)		(moderately limited)				(very limited)		(slightly limited)	
Ocie-----	Very limited		Moderately limited		Limited		Very limited		Not limited	
	~slope/erodibility	1.00	~slope/erodibility	0.49	~low strength	0.80	~slope	1.00		
	(very limited)		(moderately limited)		(limited)		(very limited)			
							~slippage potential	0.50		
							(moderately limited)			
							~low strength	0.50		
							(moderately limited)			
73125:										
Knobby-----	Moderately limited		Slightly limited		Not limited		Moderately limited		Very limited	
	~slope/erodibility	0.35	~slope/erodibility	0.18			~slippage potential	0.50	~droughty	1.00
	(moderately limited)		(slightly limited)				(moderately limited)		(very limited)	
							~slope	0.45	~soil reaction	0.66
							(moderately limited)		(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	0.65			~slope	1.00	~droughty	1.00
	(very limited)		(limited)				(very limited)		(very limited)	
							~slippage potential	0.50	~soil reaction	0.66
							(moderately limited)		(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.67	~slope/erodibility	0.12	~low strength	0.80	~slippage potential	0.50		
	(limited)		(slightly limited)		(limited)		(moderately limited)			
							~low strength	0.50		
							(moderately limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73127:										
Sonsac-----	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.78	~slope/erodibility	0.14	~low strength	0.80	~slippage potential	0.50		
	(limited)		(slightly limited)		(limited)		(moderately limited)			
							~low strength	0.50		
							(moderately limited)			
							~slope	0.15		
							(slightly limited)			
73128:										
Gobbler-----	Moderately limited		Slightly limited		Not limited		Limited		Not limited	
	~slope/erodibility	0.46	~slope/erodibility	0.24			~slope	0.76		
	(moderately limited)		(slightly limited)				(limited)			
							~slippage potential	0.50		
							(moderately limited)			
Sonsac-----	Limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24	~low strength	0.80	~slope	0.76		
	(limited)		(slightly limited)		(limited)		(limited)			
							~slippage potential	0.50		
							(moderately limited)			
							~low strength	0.50		
							(moderately limited)			
73129:										
Gasconade-----	Slightly limited		Slightly limited		Not limited		Moderately limited		Limited	
	~slope/erodibility	0.23	~slope/erodibility	0.12			~slippage potential	0.50	~droughty	0.86
	(slightly limited)		(slightly limited)				(moderately limited)		(limited)	
							~stickiness (surface)	0.50		
							(moderately limited)			
73130:										
Gasconade-----	Limited		Slightly limited		Not limited		Limited		Very limited	
	~slope/erodibility	0.69	~slope/erodibility	0.22			~slope	0.68	~droughty	1.00
	(limited)		(slightly limited)				(limited)		(very limited)	
							~slippage potential	0.50		
							(moderately limited)			
73131:										
Gasconade-----	Very limited		Moderately limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	0.33			~slope	1.00	~droughty	1.00
	(very limited)		(moderately limited)				(very limited)		(very limited)	
							~stickiness (surface)	0.50		
							(moderately limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)		Potential erosion hazard (off-road/off-trail)		Soil rutting hazard		Log landing suitability		Potential seedling mortality	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73132:										
Gasconade-----	Very limited		Moderately limited		Not limited		Very limited		Very limited	
	~slope/erodibility	1.00	~slope/erodibility	0.55			~slope	1.00	~droughty	1.00
	(very limited)		(moderately limited)				(very limited)		(very limited)	
							~slippage potential	0.50		
							(moderately limited)			
							~stickiness (surface)	0.50		
							(moderately limited)			
73133:										
Alred-----	Slightly limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.23	~slope/erodibility	0.12	~low strength	0.80	~low strength	0.50		
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)			
Ocie-----	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.67	~slope/erodibility	0.12	~low strength	0.80	~slippage potential	0.50		
	(limited)		(slightly limited)		(limited)		(moderately limited)			
							~low strength	0.50		
							(moderately limited)			
73134:										
Alred-----	Limited		Slightly limited		Not limited		Limited		Not limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24			~slope	0.76		
	(limited)		(slightly limited)				(limited)			
Ocie-----	Limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24	~low strength	0.80	~slope	0.76		
	(limited)		(slightly limited)		(limited)		(limited)			
							~slippage potential	0.50		
							(moderately limited)			
							~low strength	0.50		
							(moderately limited)			
Sonsac-----	Limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24	~low strength	0.80	~slope	0.76		
	(limited)		(slightly limited)		(limited)		(limited)			
							~low strength	0.50		
							(moderately limited)			
74638:										
Waben-----	Slightly limited		Slightly limited		Not limited		Limited		Not limited	
	~slope/erodibility	0.23	~slope/erodibility	0.12			~slippage potential	0.90		
	(slightly limited)		(slightly limited)				(limited)			

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)	Potential erosion hazard (off-road/off-trail)	Soil rutting hazard	Log landing suitability	Potential seedling mortality					
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
74639:										
Waben-----	Limited		Slightly limited		Not limited		Limited		Slightly limited	
	~slope/erodibility	0.75	~slope/erodibility	0.24			~slippage potential	0.90	~droughty	0.12
	(limited)		(slightly limited)				(limited)		(slightly limited)	
							~slope	0.76		
							(limited)			
							~very sandy (surface)	0.50		
							(moderately limited)			
74640:										
Hootentown----	Slightly limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.22	~slope/erodibility	0.05	~low strength	0.80	~low strength	0.50		
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)			
75401:										
Horsecreek-----	Slightly limited		Slightly limited		Limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.11	~slope/erodibility	0.02	~low strength	0.80	~flooding	0.60	~flooding	0.60
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)		(moderately limited)	
							~low strength	0.50		
							(moderately limited)			
Jamesfin-----	Slightly limited		Slightly limited		Limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.11	~slope/erodibility	0.02	~low strength	0.80	~flooding	0.60	~flooding	0.60
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)		(moderately limited)	
							~low strength	0.50		
							(moderately limited)			
75402:										
Pinerun-----	Slightly limited		Slightly limited		Limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.22	~slope/erodibility	0.04	~low strength	0.80	~flooding	0.60	~flooding	0.60
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)		(moderately limited)	
							~low strength	0.50		
							(moderately limited)			
75403:										
Cedargap-----	Slightly limited		Slightly limited		Not limited		Moderately limited		Limited	
	~slope/erodibility	0.12	~slope/erodibility	0.04			~flooding	0.60	~droughty	0.88
	(slightly limited)		(slightly limited)				(moderately limited)		(limited)	
									~flooding	0.60
									(moderately limited)	
Woolly-----	Slightly limited		Slightly limited		Not limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.12	~slope/erodibility	0.06			~flooding	0.60	~flooding	0.60
	(slightly limited)		(slightly limited)				(moderately limited)		(moderately limited)	
							~stickiness (surface)	0.50	~droughty	0.31
							(moderately limited)		(moderately limited)	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Potential erosion hazard (road/trail)	Potential erosion hazard (off-road/off-trail)	Soil rutting hazard	Log landing suitability	Potential seedling mortality
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>
75404:					
Pinerun-----	Slightly limited		Slightly limited		Not limited
	~slope/erodibility	0.12	~slope/erodibility	0.04	
	(slightly limited)		(slightly limited)		
75405:					
Pinerun-----	Slightly limited		Slightly limited		Not limited
	~slope/erodibility	0.12	~slope/erodibility	0.04	
	(slightly limited)		(slightly limited)		
Waben-----	Slightly limited		Slightly limited		Not limited
	~slope/erodibility	0.25	~slope/erodibility	0.08	
	(slightly limited)		(slightly limited)		
99000:					
Pits, quarries-	Not rated		Not rated		Not rated
99001:					
Water-----	Not rated		Not rated		Not rated
99005:					
Landfills-----	Not rated		Not rated		Not rated

Table 9.--Windbreaks and Environmental Plantings

(Only the soils suitable for windbreaks and environmental plantings are listed. Absence of an entry indicates that trees generally do not grow to the given height.)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
70030: Noark-----	fragrant sumac	American plum, gray dogwood, southern arrowwood, Washington hawthorn, eastern redbud	eastern redcedar, white fir	green ash, northern red oak, tuliptree	eastern white pine
Clarksville----	common lilac, fragrant sumac	gray dogwood, eastern redbud	Russian olive, eastern redcedar, hackberry, bur oak, green ash, Austrian pine	honeylocust	---
70031: Hailey-----	common lilac, fragrant sumac	Russian olive, eastern redbud, eastern redcedar, gray dogwood	bur oak, green ash, hackberry, Austrian pine	honeylocust	---
Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
70032: Tonti-----	common lilac	Amur maple, fragrant sumac, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, Austrian pine, jack pine	honeylocust	---
70034: Moko.					
Blueye-----	American plum, common lilac, fragrant sumac	Washington hawthorn, gray dogwood, Amur maple	Austrian pine, Virginia pine, common hackberry, eastern redcedar, honeylocust	---	---
Rock outcrop.					
70035, 70036: Sonsac-----	common lilac, fragrant sumac	American plum, Washington hawthorn, eastern redcedar, gray dogwood	Amur maple, Russian olive, common hackberry, Austrian pine, Virginia pine, honeylocust	---	---
Gobbler-----	fragrant sumac	American plum, gray dogwood, southern arrowwood, Washington hawthorn, eastern redbud	eastern redcedar, white fir	green ash, northern red oak, tuliptree	eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
70037: Sonsac-----	common lilac, fragrant sumac	American plum, Washington hawthorn, eastern redcedar, gray dogwood	Amur maple, Russian olive, common hackberry, Austrian pine, Virginia pine, honeylocust	---	---
Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
70050: Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
Goss-----	fragrant sumac	American plum, gray dogwood, southern arrowwood	Washington hawthorn, eastern redbud, eastern redcedar	white fir, green ash, northern red oak, tuliptree	eastern white pine
70051: Hailey-----	common lilac, fragrant sumac	Russian olive, eastern redbud, eastern redcedar, gray dogwood	bur oak, green ash, hackberry, Austrian pine	honeylocust	---
Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
71252: Britwater-----	common lilac, fragrant sumac	gray dogwood	Russian olive, bur oak, common hackberry, eastern redcedar, Austrian pine, green ash	honeylocust	---
73070: Sowcoon-----	American plum, fragrant sumac, silky dogwood	blackhaw, gray dogwood	Washington hawthorn, green ash, common hackberry, eastern redcedar, white fir	honeylocust	eastern white pine
73113: Scholten-----	American plum, common lilac, fragrant sumac	Washington hawthorn, gray dogwood, Amur maple	Austrian pine, Virginia pine, common hackberry, eastern redcedar, honeylocust	---	---
73114: Captina-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, eastern redcedar, Russian olive, Austrian pine, green ash, hackberry, jack pine	honeylocust	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73115: Horneybuck-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, Austrian pine, jack pine	honeylocust	---
Tonti-----	common lilac	Amur maple, fragrant sumac, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, Austrian pine, jack pine	honeylocust	---
73116: Pomme-----	coralberry, fragrant sumac	common serviceberry, southern arrowwood, gray dogwood	Washington hawthorn, common persimmon, eastern redcedar	black walnut, common hackberry, green ash	eastern white pine
73117: Clarksville----	common lilac, fragrant sumac	gray dogwood, eastern redbud	Russian olive, eastern redcedar, hackberry, bur oak, green ash, Austrian pine	honeylocust	---
Scholten-----	American plum, common lilac, fragrant sumac	Washington hawthorn, gray dogwood, Amur maple	Austrian pine, Virginia pine, common hackberry, eastern redcedar, honeylocust	---	---
Hailey-----	common lilac, fragrant sumac	Russian olive, eastern redbud, eastern redcedar, gray dogwood	bur oak, green ash, hackberry, Austrian pine	honeylocust	---
73118: Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
Goss-----	fragrant sumac	American plum, gray dogwood, southern arrowwood	Washington hawthorn, eastern redbud, eastern redcedar	white fir, green ash, northern red oak, tuliptree	eastern white pine
73119: Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
Hailey-----	common lilac, fragrant sumac	Russian olive, eastern redbud, eastern redcedar, gray dogwood	bur oak, green ash, hackberry, Austrian pine	honeylocust	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73120: Rueter-----	common lilac, fragrant sumac	gray dogwood	eastern redbud, Russian olive, eastern redcedar, hackberry, bur oak, green ash	Austrian pine, honeylocust	---
Gasconade.					
Rock outcrop.					
73121: Scholten-----	American plum, common lilac, fragrant sumac	Washington hawthorn, gray dogwood, Amur maple	Austrian pine, Virginia pine, common hackberry, eastern redcedar, honeylocust	---	---
Tonti-----	common lilac	Amur maple, fragrant sumac, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, Austrian pine, jack pine	honeylocust	---
73123: Mano-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, eastern redcedar, Russian olive, Austrian pine, common hackberry, green ash	honeylocust	---
Ocie-----	common lilac, fragrant sumac	gray dogwood	Manchurian crabapple, Russian olive, common hackberry, eastern redcedar, bur oak, green ash, Austrian pine	honeylocust	---
73124: Alred-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, shortleaf pine, Austrian pine	honeylocust	---
Ocie-----	common lilac, fragrant sumac	gray dogwood	Manchurian crabapple, Russian olive, common hackberry, eastern redcedar, bur oak, green ash, Austrian pine	honeylocust	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73127, 73128: Gobbler-----	fragrant sumac	American plum, gray dogwood, southern arrowwood, Washington hawthorn, eastern redbud	eastern redcedar, white fir	green ash, northern red oak, tuliptree	eastern white pine
Sonsac-----	common lilac, fragrant sumac	American plum, Washington hawthorn, eastern redcedar, gray dogwood	Amur maple, Russian olive, common hackberry, Austrian pine, Virginia pine, honeylocust	---	---
73133: Alred-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, shortleaf pine, Austrian pine	honeylocust	---
Ocie-----	common lilac, fragrant sumac	gray dogwood	Manchurian crabapple, Russian olive, common hackberry, eastern redcedar, bur oak, green ash, Austrian pine	honeylocust	---
73134: Alred-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Manchurian crabapple, Russian olive, eastern redcedar, common hackberry, green ash, shortleaf pine, Austrian pine	honeylocust	---
Ocie-----	common lilac, fragrant sumac	gray dogwood	Manchurian crabapple, Russian olive, common hackberry, eastern redcedar, bur oak, green ash, Austrian pine	honeylocust	---
Sonsac-----	common lilac, fragrant sumac	American plum, Washington hawthorn, eastern redcedar, gray dogwood	Amur maple, Russian olive, common hackberry, Austrian pine, Virginia pine, honeylocust	---	---
74638, 74639 Waben-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Russian olive, common hackberry, eastern redcedar, bur oak, green ash, shortleaf pine, Austrian pine	honeylocust	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
74640: Hootentown-----	---	fragrant sumac, Amur maple, gray dogwood, possumhaw	black walnut, eastern redcedar	Virginia pine, green ash, cherrybark oak, shortleaf pine	loblolly pine, tuliptree
75401: Horsecreek-----	---	common lilac, fragrant sumac, Amur maple, gray dogwood	Washington hawthorn, Russian olive	Austrian pine, common hackberry, green ash, honeylocust, pin oak	eastern white pine
Jamesfin-----	---	common lilac, fragrant sumac, gray dogwood	Amur maple	Austrian pine, common hackberry, green ash, honeylocust, pin oak	eastern white pine, eastern cottonwood
75402: Pinerun-----	fragrant sumac	American plum, blackhaw, gray dogwood, silky dogwood, southern arrowwood	Washington hawthorn	Virginia pine, shortleaf pine, green ash, sweetgum	eastern white pine
75403: Cedargap-----	---	common lilac, fragrant sumac	Amur maple, gray dogwood	Austrian pine, common hackberry, green ash, honeylocust, pin oak	eastern white pine, eastern cottonwood
Woolly-----	---	common lilac, fragrant sumac	Amur maple, gray dogwood	Austrian pine, common hackberry, green ash, honeylocust, pin oak	eastern white pine, eastern cottonwood
75404: Pinerun-----	fragrant sumac	American plum, blackhaw, gray dogwood, silky dogwood, southern arrowwood	Washington hawthorn	Virginia pine, shortleaf pine, green ash, sweetgum	eastern white pine
75405: Pinerun-----	fragrant sumac	American plum, blackhaw, gray dogwood, silky dogwood, southern arrowwood	Washington hawthorn	Virginia pine, shortleaf pine, green ash, sweetgum	eastern white pine
Waben-----	common lilac, fragrant sumac	Amur maple, gray dogwood	Russian olive, common hackberry, eastern redcedar, bur oak, green ash, shortleaf pine, Austrian pine	honeylocust	---

Table 10.--Recreation

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:								
Noark-----	Very limited		Very limited		Very limited		Limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.87
	(very limited)		(very limited)		(very limited)		(limited)	
					~slope	0.98		
					(limited)			
Clarksville-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.30
	(very limited)		(very limited)		(very limited)		(slightly limited)	
					~slope	0.98		
					(limited)			
70031:								
Bailey-----	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	0.95	~small stones	0.95	~slope	1.00	~large stones	0.03
	(limited)		(limited)		(very limited)		(slightly limited)	
	~large stones	0.03	~large stones	0.03	~large stones	0.99		
	(slightly limited)		(slightly limited)		(limited)			
Rueter-----	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.73
	(very limited)		(very limited)		(very limited)		(limited)	
70032:								
Tonti-----	Limited		Moderately limited		Very limited		Slightly limited	
	~wetness	0.60	~small stones	0.33	~small stones	1.00	~wetness	0.28
	(limited)		(moderately limited)		(very limited)		(slightly limited)	
	~small stones	0.33	~wetness	0.28	~wetness	0.60		
	(moderately limited)		(slightly limited)		(limited)			
70033:								
Moko-----	Limited		Limited		Very limited		Moderately limited	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~slope	1.00	~too clayey	0.60
	(limited)		(limited)		(very limited)		(moderately limited)	
	~too clayey	0.60	~too clayey	0.60	~bedrock <20 in.	1.00	~large stones	0.30
	(moderately limited)		(moderately limited)		(very limited)		(moderately limited)	
	~slope	0.37	~slope	0.37	~large stones >25%	1.00		
	(moderately limited)		(moderately limited)		(very limited)			
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
70034:								
Moko-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.87
	(very limited)		(very limited)		(very limited)		(limited)	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~bedrock <20 in.	1.00		
	(limited)		(limited)		(very limited)			

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70034:								
Blueye-----	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	0.67
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.60
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~too clayey	0.60	~too clayey	0.60	~too clayey	0.60	~too clayey	0.60
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
70035:								
Sonsac-----	Very limited		Very limited		Very limited		Moderately limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.33
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~small stones	0.09	~small stones	0.09	~small stones	1.00		
	(slightly limited)		(slightly limited)		(very limited)			
					~large stones	0.60		
					(moderately limited)			
Gobbler-----	Very limited		Very limited		Very limited		Moderately limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.33
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.30
	(very limited)		(very limited)		(very limited)		(slightly limited)	
70036:								
Sonsac-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.87
	(very limited)		(very limited)		(very limited)		(limited)	
					~depth to bedrock	0.24		
					(slightly limited)			
Gobbler-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~large surface stones	0.79	~large surface stones	0.79			~large surface stones	0.79
	(limited)		(limited)				(limited)	
70037:								
Sonsac-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.73
	(very limited)		(very limited)		(very limited)		(limited)	
					~depth to bedrock	0.13		
					(slightly limited)			
Rueter-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70038:								
Moko-----	Limited		Limited		Very limited		Limited	
	~shallow to bedrock (limited)	0.90	~shallow to bedrock (limited)	0.90	~bedrock <20 in. (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large stones >25% (very limited)	1.00	~large stones (limited)	0.68
	~large stones (limited)	0.68	~large stones (limited)	0.68	~small stones (very limited)	1.00	~too clayey (moderately limited)	0.60
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
70050:								
Rueter-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (slightly limited)	0.30
	~slope (limited)	0.63	~slope (limited)	0.63	~slope (very limited)	1.00		
Goss-----	Limited		Limited		Very limited		Not limited	
	~small stones (limited)	0.82	~small stones (limited)	0.82	~slope (very limited)	1.00		
	~slope (limited)	0.63	~slope (limited)	0.63	~small stones (very limited)	1.00		
70051:								
Bailey-----	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (limited)	0.92
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~small stones (slightly limited)	0.15
	~large stones (slightly limited)	0.03	~large stones (slightly limited)	0.03	~large stones (limited)	0.99	~large stones (slightly limited)	0.03
Rueter-----	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.92
71252:								
Britwater-----	Moderately limited		Moderately limited		Very limited		Not limited	
	~small stones (moderately limited)	0.33	~small stones (moderately limited)	0.33	~small stones (very limited)	1.00		
					~slope (limited)	0.98		
73070:								
Sowcoon-----	Very limited		Very limited		Very limited		Very limited	
	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00
	~wetness (limited)	0.97	~wetness (limited)	0.60	~wetness (limited)	0.97	~wetness (limited)	0.60
	~percs slowly (slightly limited)	0.17	~percs slowly (slightly limited)	0.17	~percs slowly (slightly limited)	0.17		
73113:								
Scholten-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (very limited)	1.00	~wetness (slightly limited)	0.28
	~wetness (limited)	0.60	~wetness (slightly limited)	0.28	~slope (limited)	0.98	~small stones (slightly limited)	0.01
					~wetness (limited)	0.60		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73114: Captina-----	Limited ~wetness (limited)	0.80	Moderately limited ~wetness (moderately limited)	0.45	Limited ~wetness (limited) ~small stones (slightly limited)	0.80 0.00	Moderately limited ~wetness (moderately limited)	0.45
73115: Horneybuck-----	Limited ~wetness (limited) ~percs slowly (slightly limited)	0.85 0.13	Moderately limited ~wetness (moderately limited) ~percs slowly (slightly limited)	0.49 0.13	Limited ~wetness (limited) ~slope (limited) ~small stones (moderately limited)	0.85 0.78 0.30	Moderately limited ~wetness (moderately limited)	0.49
Tonti-----	Limited ~wetness (limited)	0.67	Moderately limited ~wetness (moderately limited)	0.34	Limited ~slope (limited) ~wetness (limited)	0.78 0.67	Moderately limited ~wetness (moderately limited)	0.34
73116: Pomme-----	Not limited		Not limited		Moderately limited ~small stones (moderately limited) ~slope (moderately limited)	0.60 0.40	Not limited	
73117: Clarksville-----	Very limited ~small stones (very limited)	1.00	Very limited ~small stones (very limited)	1.00	Very limited ~small stones (very limited) ~slope (very limited)	1.00 1.00	Very limited ~small stones (limited)	1.00
Scholten-----	Very limited ~small stones (very limited) ~wetness (limited)	1.00 0.60	Very limited ~small stones (very limited) ~wetness (slightly limited)	1.00 0.28	Very limited ~small stones (very limited) ~slope (very limited) ~wetness (limited)	1.00 1.00 0.60	Slightly limited ~small stones (slightly limited) ~wetness (slightly limited)	0.30 0.28
Hailey-----	Very limited ~small stones (very limited)	1.00	Very limited ~small stones (very limited)	1.00	Very limited ~small stones (very limited) ~slope (very limited)	1.00 1.00	Limited ~small stones (limited)	0.87
73118: Rueter-----	Very limited ~small stones (very limited) ~slope (limited)	1.00 0.63	Very limited ~small stones (very limited) ~slope (limited)	1.00 0.63	Very limited ~small stones (very limited) ~slope (very limited)	1.00 1.00	Slightly limited ~small stones (slightly limited)	0.30
Goss-----	Limited ~small stones (limited) ~slope (limited)	0.82 0.63	Limited ~small stones (limited) ~slope (limited)	0.82 0.63	Very limited ~slope (very limited) ~small stones (very limited)	1.00 1.00	Not limited	

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73119:								
Rueter-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.38
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~large stones	0.03	~large stones	0.03	~large stones	0.99	~large stones	0.03
	(slightly limited)		(slightly limited)		(limited)		(slightly limited)	
73120:								
Rueter-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.87
	(very limited)		(very limited)		(very limited)		(limited)	
Gasconade-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~bedrock <20 in.	1.00	~large stones	0.03
	(limited)		(limited)		(very limited)		(slightly limited)	
	~small stones	0.14	~small stones	0.14	~small stones	1.00		
	(slightly limited)		(slightly limited)		(very limited)			
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73121:								
Scholten-----	Limited		Moderately limited		Limited		Moderately limited	
	~wetness	0.67	~wetness	0.34	~slope	0.78	~wetness	0.34
	(limited)		(moderately limited)		(limited)		(moderately limited)	
					~wetness	0.67		
					(limited)			
					~small stones	0.00		
					(slightly limited)			
Tonti-----	Limited		Moderately limited		Limited		Moderately limited	
	~wetness	0.72	~wetness	0.39	~slope	0.78	~wetness	0.39
	(limited)		(moderately limited)		(limited)		(moderately limited)	
					~wetness	0.72		
					(limited)			
73122:								
Gasconade-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~too clayey	1.00	~too clayey	1.00	~bedrock <20 in.	1.00	~too clayey	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~small stones	1.00	~large stones	0.03
	(limited)		(limited)		(very limited)		(slightly limited)	
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73123:								
Mano-----	Limited		Limited		Very limited		Not limited	
	~small stones	0.82	~small stones	0.82	~small stones	1.00		
	(limited)		(limited)		(very limited)			
	~percs slowly	0.39	~percs slowly	0.39	~slope	1.00		
	(moderately limited)		(moderately limited)		(very limited)			
	~slope	0.04	~slope	0.04	~percs slowly	0.39		
	(slightly limited)		(slightly limited)		(moderately limited)			
Ocie-----	Limited		Limited		Very limited		Not limited	
	~small stones	0.91	~small stones	0.91	~small stones	1.00		
	(limited)		(limited)		(very limited)			
	~percs slowly	0.39	~percs slowly	0.39	~slope	1.00		
	(moderately limited)		(moderately limited)		(very limited)			
	~slope	0.04	~slope	0.04	~percs slowly	0.39		
	(slightly limited)		(slightly limited)		(moderately limited)			
73124:								
Alred-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~small stones	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~slope	1.00	~small stones	0.60
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~percs slowly	0.40	~percs slowly	0.40	~percs slowly	0.40	~large surface stones	0.13
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	0.48	~small stones	0.48	~small stones	1.00	~large surface stones	0.13
	(moderately limited)		(moderately limited)		(very limited)		(slightly limited)	
	~percs slowly	0.39	~percs slowly	0.39	~percs slowly	0.39		
	(moderately limited)		(moderately limited)		(moderately limited)			
73125:								
Knobby-----	Limited		Limited		Very limited		Slightly limited	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~bedrock <20 in.	1.00	~large stones	0.03
	(limited)		(limited)		(very limited)		(slightly limited)	
	~small stones	0.68	~small stones	0.68	~slope	1.00		
	(limited)		(limited)		(very limited)			
	~slope	0.04	~slope	0.04	~small stones	1.00		
	(slightly limited)		(slightly limited)		(very limited)			
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73126:								
Knobby-----	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~bedrock <20 in.	1.00		
	(limited)		(limited)		(very limited)			
	~small stones	0.24	~small stones	0.24	~small stones	1.00		
	(slightly limited)		(slightly limited)		(very limited)			
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73127:								
Gobbler-----	Slightly limited		Slightly limited		Very limited		Not limited	
	~small stones	0.06	~small stones	0.06	~small stones	1.00		
	(slightly limited)		(slightly limited)		(limited)			
					~slope	0.98		
					(limited)			

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73127: Sonsac-----	Not limited		Not limited		Very limited ~slope (very limited) ~depth to bedrock (slightly limited)	 1.00  0.15	Not limited	
73128: Gobbler-----	Very limited ~small stones (limited) ~slope (limited) ~large surface stones (slightly limited)	 1.00  0.63  0.13	Very limited ~small stones (limited) ~slope (limited) ~large surface stones (slightly limited)	 1.00  0.63  0.13	Very limited ~small stones (very limited) ~slope (very limited)	 1.00  1.00	Slightly limited ~large surface stones (slightly limited) ~small stones (slightly limited)	 0.13  0.01
Sonsac-----	Limited ~small stones (limited) ~slope (limited)	 0.64  0.63	Limited ~small stones (limited) ~slope (limited)	 0.64  0.63	Very limited ~slope (very limited) ~small stones (very limited) ~depth to bedrock (moderately limited)	 1.00  1.00  0.46	Not limited	
73129: Gasconade-----	Limited ~shallow to bedrock (limited) ~too clayey (moderately limited) ~small stones (moderately limited)	 0.90  0.60  0.33	Limited ~shallow to bedrock (limited) ~too clayey (moderately limited) ~small stones (moderately limited)	 0.90  0.60  0.33	Very limited ~bedrock <20 in. (very limited) ~small stones (very limited) ~slope (limited)	 1.00  1.00  0.98	Moderately limited ~too clayey (moderately limited)	 0.60
73130: Gasconade-----	Very limited ~small stones (very limited) ~shallow to bedrock (limited) ~slope (moderately limited)	 1.00  0.90  0.37	Very limited ~small stones (very limited) ~shallow to bedrock (limited) ~slope (moderately limited)	 1.00  0.90  0.37	Very limited ~small stones (very limited) ~slope (very limited) ~bedrock <20 in. (very limited)	 1.00  1.00  1.00	Moderately limited ~small stones (moderately limited)	 0.60
73131: Gasconade-----	Very limited ~slope (very limited) ~too clayey (very limited) ~small stones (very limited)	 1.00  1.00  1.00	Very limited ~slope (very limited) ~too clayey (very limited) ~small stones (very limited)	 1.00  1.00  1.00	Very limited ~small stones (very limited) ~slope (very limited) ~bedrock <20 in. (very limited)	 1.00  1.00  1.00	Very limited ~too clayey (very limited) ~small stones (moderately limited) ~slope (slightly limited)	 1.00  0.60  0.25
73132: Gasconade-----	Very limited ~slope (very limited) ~shallow to bedrock (limited) ~large stones (limited)	 1.00  0.90  0.60	Very limited ~slope (very limited) ~shallow to bedrock (limited) ~large stones (limited)	 1.00  0.90  0.60	Very limited ~slope (very limited) ~bedrock <20 in. (very limited) ~large stones >25% (very limited)	 1.00  1.00  1.00	Very limited ~slope (very limited) ~large stones (limited) ~too clayey (moderately limited)	 1.00  0.60  0.60

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73133:								
Alred-----	Moderately limited		Moderately limited		Very limited		Not limited	
	~small stones	0.48	~small stones	0.48	~small stones	1.00		
	(moderately limited)		(moderately limited)		(very limited)			
	~percs slowly	0.40	~percs slowly	0.40	~slope	0.98		
	(moderately limited)		(moderately limited)		(limited)			
					~percs slowly	0.40		
					(moderately limited)			
Ocie-----	Moderately limited		Moderately limited		Limited		Not limited	
	~percs slowly	0.39	~percs slowly	0.39	~slope	0.98		
	(moderately limited)		(moderately limited)		(limited)			
					~percs slowly	0.39		
					(moderately limited)			
73134:								
Alred-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.30
	(very limited)		(very limited)		(very limited)		(slightly limited)	
	~slope	0.63	~slope	0.63	~slope	1.00	~large surface stones	0.13
	(limited)		(limited)		(very limited)		(slightly limited)	
	~percs slowly	0.39	~percs slowly	0.39	~percs slowly	0.39		
	(moderately limited)		(moderately limited)		(moderately limited)			
Ocie-----	Limited		Limited		Very limited		Slightly limited	
	~small stones	0.64	~small stones	0.64	~slope	1.00	~large surface stones	0.13
	(limited)		(limited)		(very limited)		(slightly limited)	
	~slope	0.63	~slope	0.63	~small stones	1.00		
	(limited)		(limited)		(very limited)			
	~percs slowly	0.39	~percs slowly	0.39	~percs slowly	0.39		
	(moderately limited)		(moderately limited)		(moderately limited)			
Sonsac-----	Limited		Limited		Very limited		Limited	
	~large surface stones	0.79	~large surface stones	0.79	~slope	1.00	~large surface stones	0.79
	(limited)		(limited)		(very limited)		(limited)	
	~slope	0.63	~slope	0.63	~small stones	1.00		
	(limited)		(limited)		(very limited)			
	~small stones	0.48	~small stones	0.48	~depth to bedrock	0.18		
	(moderately limited)		(moderately limited)		(slightly limited)			
74638:								
Waben-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.01
	(limited)		(limited)		(very limited)		(slightly limited)	
					~slope	0.98		
					(limited)			
74639:								
Waben-----	Very limited		Very limited		Very limited		Very limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.63	~slope	0.63	~slope	1.00		
	(limited)		(limited)		(very limited)			
	~too acid	0.18	~too acid	0.18	~too acid	0.18		
	(slightly limited)		(slightly limited)		(slightly limited)			
74640:								
Hootentown-----	Limited		Not limited		Not limited		Not limited	
	~flooding (rare)	0.90						
	(limited)							

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75401:								
Horsecreek-----	Very limited		Not limited		Moderately limited		Not limited	
	~flooding	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
Jamesfin-----	Very limited		Not limited		Moderately limited		Not limited	
	~flooding	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
75402:								
Pinerun-----	Very limited		Not limited		Moderately limited		Not limited	
	~flooding	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
					~small stones	0.00		
					(slightly limited)			
75403:								
Cedargap-----	Very limited		Very limited		Very limited		Limited	
	~flooding	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.73
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
Woolly-----	Very limited		Very limited		Very limited		Limited	
	~flooding	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.87
	(very limited)		(very limited)		(very limited)		(limited)	
	~small stones	1.00	~too clayey	0.60	~flooding	0.60	~too clayey	0.60
	(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~too clayey	0.60			~too clayey	0.60		
	(moderately limited)				(moderately limited)			
75404:								
Pinerun-----	Very limited		Very limited		Very limited		Slightly limited	
	~flooding	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.01
	(very limited)		(limited)		(very limited)		(slightly limited)	
	~small stones	1.00			~flooding	0.60		
	(limited)				(moderately limited)			
75405:								
Pinerun-----	Very limited		Very limited		Very limited		Moderately limited	
	~flooding	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.42
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~small stones	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
					~large stones	0.01		
					(slightly limited)			
Waben-----	Very limited		Very limited		Very limited		Slightly limited	
	~small stones	1.00	~small stones	1.00	~small stones	1.00	~small stones	0.01
	(limited)		(limited)		(very limited)		(slightly limited)	
					~slope	0.40		
					(moderately limited)			
99000:								
Pits, quarries----	Not rated		Not rated		Not rated		Not rated	
99001:								
Water-----	Not rated		Not rated		Not rated		Not rated	
99005:								
Landfills-----	Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat Suitability

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Very limited		Very limited		Limited		Limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.86	~small stones	0.87	~droughty	0.30
	(very limited)		(very limited)		(limited)		(limited)		(slightly limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.30	~droughty	0.30		
	(very limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.30						
	(limited)		(slightly limited)							
Clarksville----	Very limited		Very limited		Moderately limited		Slightly limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.42	~small stones	0.30	~droughty	0.16
	(very limited)		(very limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.16	~droughty	0.16		
	(very limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.16						
	(limited)		(slightly limited)							
70031:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	0.95	~small stones	0.95	~small stones	0.20	~large stones	0.03	~large stones	0.03
	(limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~high erodibility	0.80	~high erodibility	0.80	~large stones	0.03				
	(limited)		(limited)		(slightly limited)					
Rueter-----	Very limited		Very limited		Limited		Limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.73	~small stones	0.73	~droughty	0.59
	(very limited)		(very limited)		(limited)		(limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.59	~droughty	0.59		
	(very limited)		(limited)		(moderately limited)		(moderately limited)			
	~high erodibility	0.80	~slope	0.60						
	(limited)		(moderately limited)							
70032:										
Tonti-----	Limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	0.75	~wetness	0.44	~wetness	0.44	~wetness	0.44	~wetness	0.59
	(limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~wetness	0.44	~small stones	0.33	~small stones	0.04				
	(moderately limited)		(moderately limited)		(slightly limited)					
	~small stones	0.33								
	(moderately limited)									

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones	0.30	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~high erodibility	0.80	~high erodibility	0.80	~too clayey	0.15	~large stones	0.30	~large stones	0.30
	(limited)		(limited)		(slightly limited)		(moderately limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.86	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00			~small stones	0.87		
	(very limited)		(very limited)				(limited)			
Blueye-----	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.60	~small stones	0.60	~droughty	0.31
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.31	~droughty	0.31	~depth to bedrock	0.30
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(slightly limited)	
	~high erodibility	0.80	~slope	0.42	~too clayey	0.05	~depth to bedrock	0.30		
	(limited)		(moderately limited)		(slightly limited)		(slightly limited)			
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty	1.00	~high erodibility	0.80	~droughty	0.03	~depth to bedrock	0.06	~depth to bedrock	0.06
	(very limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~high erodibility	0.80	~slope	0.20	~small stones	0.00	~droughty	0.03	~droughty	0.03
	(limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~slope	0.20	~small stones	0.09						
	(slightly limited)		(slightly limited)							
Gobbler-----	Very limited		Very limited		Moderately limited		Slightly limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.42	~small stones	0.30	~droughty	0.29
	(very limited)		(very limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.29	~droughty	0.29		
	(very limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.29						
	(limited)		(slightly limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)	Domestic grasses and legumes (for use as food and cover)	Upland wild herbaceous plants	Upland shrubs and vines	Upland deciduous trees					
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Limited		Limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.86	~small stones	0.87	~droughty	0.58
	(very limited)		(very limited)		(limited)		(limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.58	~droughty	0.58	~depth to bedrock	0.24
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(slightly limited)	
	~high erodibility	0.80	~slope	0.79			~depth to bedrock	0.24		
	(limited)		(limited)				(slightly limited)			
Gobbler-----	Very limited		Very limited		Limited		Limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.99	~small stones	1.00	~droughty	0.49
	(very limited)		(very limited)		(limited)		(limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.49	~droughty	0.49		
	(very limited)		(limited)		(moderately limited)		(moderately limited)			
	~high erodibility	0.80	~slope	0.60						
	(limited)		(moderately limited)							
70037:										
Sonsac-----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.97	~droughty	0.97	~droughty	0.97
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~slope	1.00	~small stones	0.73	~small stones	0.73	~depth to bedrock	0.13
	(very limited)		(very limited)		(limited)		(limited)		(slightly limited)	
	~slope	1.00	~droughty	0.97			~depth to bedrock	0.13		
	(very limited)		(limited)				(slightly limited)			
Rueter-----	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	1.00	~small stones	1.00	~droughty	0.56
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
	~small stones	1.00	~slope	1.00	~droughty	0.56	~droughty	0.56		
	(very limited)		(very limited)		(moderately limited)		(moderately limited)			
	~slope	1.00	~high erodibility	0.80						
	(very limited)		(limited)							
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones	0.68	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~large stones >35%	1.00	~large stones >35%	1.00	~too clayey	0.14	~large stones	0.68	~large stones	0.68
	(very limited)		(very limited)		(slightly limited)		(limited)		(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.56	~droughty	0.56	~droughty	0.56
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~small stones	0.42	~small stones	0.30		
	(very limited)		(limited)		(moderately limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.56						
	(limited)		(moderately limited)							
Goss-----	Very limited		Limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	0.82	~droughty	0.43	~droughty	0.43	~droughty	0.43
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	0.82	~high erodibility	0.80	~small stones	0.17				
	(limited)		(limited)		(slightly limited)					
	~high erodibility	0.80	~droughty	0.43						
	(limited)		(moderately limited)							
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~small stones	0.33	~small stones	0.15	~large stones	0.03
	(very limited)		(very limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~high erodibility	0.80	~high erodibility	0.80	~large stones	0.03	~large stones	0.03		
	(limited)		(limited)		(slightly limited)		(slightly limited)			
Rueter-----	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	1.00	~small stones	1.00	~droughty	0.59
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.59	~droughty	0.59		
	(very limited)		(limited)		(moderately limited)		(moderately limited)			
	~high erodibility	0.80	~slope	0.60						
	(limited)		(moderately limited)							
71252:										
Britwater-----	Moderately limited		Moderately limited		Slightly limited		Not limited		Not limited	
	~moderate erodibility	0.50	~moderate erodibility	0.50	~small stones	0.04				
	(moderately limited)		(moderately limited)		(slightly limited)					
	~small stones	0.33	~small stones	0.33						
	(moderately limited)		(moderately limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73070:										
Sowcoon-----	Very limited		Very limited		Limited		Limited		Limited	
	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~seasonally ponded	0.80	~seasonally ponded	0.80	~wetness	0.99
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~wetness	0.60	~wetness	0.60	~wetness	0.60	~wetness	0.60	~seasonally ponded	0.80
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
	~percs slowly	0.17	~percs slowly	0.17						
	(slightly limited)		(slightly limited)							
73113:										
Scholten-----	Very limited		Limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.90	~droughty	0.90	~droughty	0.90
	(very limited)		(limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.90	~wetness	0.44	~wetness	0.44	~wetness	0.59
	(limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~moderate erodibility	0.50	~moderate erodibility	0.50	~small stones	0.24	~small stones	0.01		
	(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)			
73114:										
Captina-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~wetness	0.53	~wetness	0.53	~wetness	0.53	~wetness	0.53	~wetness	0.79
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
	~droughty	0.34								
	(moderately limited)									
73115:										
Horneybuck-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~wetness	0.55	~wetness	0.55	~wetness	0.55	~wetness	0.55	~wetness	0.85
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
	~moderate erodibility	0.50	~moderate erodibility	0.50						
	(moderately limited)		(moderately limited)							
	~percs slowly	0.13	~percs slowly	0.13						
	(slightly limited)		(slightly limited)							
Tonti-----	Limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~droughty	0.66	~moderate erodibility	0.50	~wetness	0.48	~wetness	0.48	~wetness	0.66
	(limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
	~moderate erodibility	0.50	~wetness	0.48						
	(moderately limited)		(moderately limited)							
	~wetness	0.48								
	(moderately limited)									

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73116:										
Pomme-----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~moderate erodibility	0.50	~moderate erodibility	0.50						
	(moderately limited)		(moderately limited)							
	~droughty	0.45								
	(moderately limited)									
73117:										
Clarksville----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.99	~small stones	1.00	~droughty	0.66
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.66	~droughty	0.66		
	(very limited)		(limited)		(limited)		(limited)			
	~high erodibility	0.80	~droughty	0.66						
	(limited)		(limited)							
Scholten-----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.89	~droughty	0.89	~droughty	0.89
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.89	~wetness	0.44	~wetness	0.44	~wetness	0.59
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~high erodibility	0.80	~high erodibility	0.80	~small stones	0.42	~small stones	0.30		
	(limited)		(limited)		(moderately limited)		(slightly limited)			
Hailey-----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.86	~small stones	0.87	~droughty	0.82
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.82	~droughty	0.82	~droughty	0.82		
	(very limited)		(limited)		(limited)		(limited)			
	~high erodibility	0.80	~high erodibility	0.80						
	(limited)		(limited)							
73118:										
Rueter-----	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.56	~droughty	0.56	~droughty	0.56
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~small stones	0.42	~small stones	0.30		
	(very limited)		(limited)		(moderately limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.56						
	(limited)		(moderately limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73118:										
Goss-----	Very limited		Limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	0.82	~droughty	0.43	~droughty	0.43	~droughty	0.43
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	0.82	~high erodibility	0.80	~small stones	0.17				
	(limited)		(limited)		(slightly limited)					
	~high erodibility	0.80	~droughty	0.43						
	(limited)		(moderately limited)							
73119:										
Rueter-----	Very limited		Very limited		Limited		Limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.99	~small stones	1.00	~droughty	0.54
	(very limited)		(very limited)		(limited)		(limited)		(moderately limited)	
	~small stones	1.00	~slope	1.00	~droughty	0.54	~droughty	0.54		
	(very limited)		(very limited)		(moderately limited)		(moderately limited)			
	~slope	1.00	~high erodibility	0.80						
	(very limited)		(limited)							
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~small stones	1.00	~small stones	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	1.00	~droughty	1.00	~small stones	0.46	~small stones	0.38	~large stones	0.03
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(slightly limited)	
	~slope	1.00	~slope	1.00	~large stones	0.03	~large stones	0.03		
	(very limited)		(very limited)		(slightly limited)		(slightly limited)			
73120:										
Rueter-----	Very limited		Very limited		Limited		Limited		Not limited	
	~small stones	1.00	~small stones	1.00	~small stones	0.86	~small stones	0.87		
	(very limited)		(very limited)		(limited)		(limited)			
	~slope	1.00	~slope	1.00						
	(very limited)		(very limited)							
	~droughty	0.96	~high erodibility	0.80						
	(limited)		(limited)							
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~too clayey	0.30	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~large stones	0.03	~too clayey	0.30	~large stones	0.03
	(very limited)		(very limited)		(slightly limited)		(moderately limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73121:										
Scholten-----	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~droughty	0.96	~high erodibility	0.80	~wetness	0.48	~wetness	0.48	~wetness	0.66
	(limited)		(limited)		(moderately limited)		(moderately limited)		(limited)	
	~high erodibility	0.80	~wetness	0.48						
	(limited)		(moderately limited)							
	~wetness	0.48								
	(moderately limited)									
Tonti-----	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility	0.80	~high erodibility	0.80	~wetness	0.50	~wetness	0.50	~wetness	0.71
	(limited)		(limited)		(moderately limited)		(moderately limited)		(limited)	
	~droughty	0.76	~wetness	0.50						
	(limited)		(moderately limited)							
	~wetness	0.50								
	(moderately limited)									
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~too clayey	0.30	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.14	~too clayey	0.30	~large stones	0.03
	(very limited)		(very limited)		(slightly limited)		(moderately limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty	1.00	~small stones	0.82	~small stones	0.17	~droughty	0.00	~droughty	0.00
	(very limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~small stones	0.82	~moderate erodibility	0.50	~droughty	0.00				
	(limited)		(moderately limited)		(slightly limited)					
	~moderate erodibility	0.50	~percs slowly	0.39						
	(moderately limited)		(moderately limited)							
Ocie-----	Limited		Limited		Slightly limited		Not limited		Not limited	
	~droughty	0.99	~small stones	0.91	~small stones	0.19				
	(very limited)		(limited)		(slightly limited)					
	~small stones	0.91	~moderate erodibility	0.50						
	(limited)		(moderately limited)							
	~moderate erodibility	0.50	~percs slowly	0.39						
	(moderately limited)		(moderately limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73124:										
Alred-----	Very limited		Very limited		Moderately limited		Moderately limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.60	~small stones	0.60	~droughty	0.11
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(slightly limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.11	~droughty	0.11		
	(very limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~slope	0.68						
	(limited)		(limited)							
Ocie-----	Limited		Limited		Slightly limited		Not limited		Not limited	
	~droughty	0.91	~high erodibility	0.80	~small stones	0.08				
	(limited)		(limited)		(slightly limited)					
	~high erodibility	0.80	~slope	0.60						
	(limited)		(moderately limited)							
	~slope	0.60	~small stones	0.48						
	(moderately limited)		(moderately limited)							
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.14	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(slightly limited)		(very limited)		(very limited)	
	~small stones	0.68	~small stones	0.68	~large stones	0.03	~large stones	0.03	~large stones	0.03
	(limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.03	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(slightly limited)		(very limited)		(very limited)	
	~slope	0.91	~slope	0.91						
	(limited)		(limited)							
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty	1.00	~high erodibility	0.80	~droughty	0.03	~droughty	0.03	~droughty	0.03
	(very limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~high erodibility	0.80	~small stones	0.06	~small stones	0.00				
	(limited)		(slightly limited)		(slightly limited)					
	~small stones	0.06	~droughty	0.03						
	(slightly limited)		(slightly limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73127:										
Sonsac-----	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty	1.00	~high erodibility	0.80	~droughty	0.04	~depth to bedrock	0.15	~depth to bedrock	0.15
	(very limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~high erodibility	0.80	~depth to bedrock	0.15			~droughty	0.04	~droughty	0.04
	(limited)		(slightly limited)				(slightly limited)		(slightly limited)	
	~depth to bedrock	0.15	~droughty	0.04						
	(slightly limited)		(slightly limited)							
73128:										
Gobbler-----	Very limited		Limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.50	~droughty	0.50	~droughty	0.50
	(very limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~small stones	1.00	~high erodibility	0.80	~small stones	0.24	~small stones	0.01		
	(limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~droughty	0.50						
	(limited)		(moderately limited)							
Sonsac-----	Very limited		Limited		Limited		Limited		Limited	
	~droughty	1.00	~high erodibility	0.80	~droughty	0.61	~droughty	0.61	~droughty	0.61
	(very limited)		(limited)		(limited)		(limited)		(limited)	
	~high erodibility	0.80	~small stones	0.64	~small stones	0.13	~depth to bedrock	0.46	~depth to bedrock	0.46
	(limited)		(limited)		(slightly limited)		(moderately limited)		(moderately limited)	
	~small stones	0.64	~droughty	0.61						
	(limited)		(limited)							
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~too clayey	0.27	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(slightly limited)		(very limited)		(very limited)	
	~high erodibility	0.80	~high erodibility	0.80	~small stones	0.04	~too clayey	0.27		
	(limited)		(limited)		(slightly limited)		(slightly limited)			
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.60	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00			~small stones	0.60		
	(very limited)		(very limited)				(moderately limited)			

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~small stones	0.60	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(moderately limited)		(very limited)		(very limited)	
	~small stones	1.00	~small stones	1.00	~too clayey	0.30	~small stones	0.60		
	(very limited)		(very limited)		(moderately limited)		(moderately limited)			
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones	0.60	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~large stones >35%	0.99	~large stones >35%	0.99	~too clayey	0.18	~large stones	0.60	~large stones	0.60
	(very limited)		(very limited)		(slightly limited)		(limited)		(limited)	
73133:										
Alred-----	Very limited		Moderately limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty	1.00	~moderate erodibility	0.50	~droughty	0.11	~droughty	0.11	~droughty	0.11
	(very limited)		(moderately limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	~moderate erodibility	0.50	~small stones	0.48	~small stones	0.08				
	(moderately limited)		(moderately limited)		(slightly limited)					
	~small stones	0.48	~percs slowly	0.40						
	(moderately limited)		(moderately limited)							
Ocie-----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~droughty	0.52	~moderate erodibility	0.50						
	(moderately limited)		(moderately limited)							
	~moderate erodibility	0.50	~percs slowly	0.39						
	(moderately limited)		(moderately limited)							
	~percs slowly	0.39								
	(moderately limited)									
73134:										
Alred-----	Very limited		Very limited		Moderately limited		Slightly limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.42	~small stones	0.30	~droughty	0.02
	(very limited)		(very limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~small stones	1.00	~high erodibility	0.80	~droughty	0.02	~droughty	0.02		
	(very limited)		(limited)		(slightly limited)		(slightly limited)			
	~high erodibility	0.80	~percs slowly	0.39						
	(limited)		(moderately limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
73134:										
Ocie-----	Limited		Limited		Slightly limited		Not limited		Not limited	
	~droughty (limited)	0.97	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.13				
	~high erodibility (limited)	0.80	~small stones (limited)	0.64						
	~small stones (limited)	0.64	~percs slowly (moderately limited)	0.39						
Sonsac-----	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.12	~depth to bedrock (slightly limited)	0.18	~depth to bedrock (slightly limited)	0.18
	~high erodibility (limited)	0.80	~small stones (moderately limited)	0.48	~small stones (slightly limited)	0.08	~droughty (slightly limited)	0.12	~droughty (slightly limited)	0.12
	~small stones (moderately limited)	0.48	~depth to bedrock (slightly limited)	0.18						
74638:										
Waben-----	Limited		Limited		Slightly limited		Slightly limited		Not limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (slightly limited)	0.24	~small stones (slightly limited)	0.01		
	~droughty (limited)	0.84	~moderate erodibility (moderately limited)	0.50						
	~moderate erodibility (moderately limited)	0.50								
74639:										
Waben-----	Very limited		Very limited		Very limited		Very limited		Slightly limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~droughty (slightly limited)	0.04
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.04	~droughty (slightly limited)	0.04		
	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.04						
74640:										
Hootentown----	Not limited		Not limited		Not limited		Not limited		Not limited	
75401:										
Horsecreek----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60						
Jamesfin-----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60						

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75402:										
Pinerun-----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~flooding	0.60	~flooding	0.60						
	(moderately limited)		(moderately limited)							
	~droughty	0.23								
	(slightly limited)									
75403:										
Cedargap-----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.97	~droughty	0.97	~droughty	0.97
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.97	~small stones	0.73	~small stones	0.73		
	(very limited)		(limited)		(limited)		(limited)			
	~flooding	0.60	~flooding	0.60						
	(moderately limited)		(moderately limited)							
Woolly-----	Very limited		Very limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.90	~droughty	0.90	~droughty	0.90
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.90	~small stones	0.86	~small stones	0.87		
	(very limited)		(limited)		(limited)		(limited)			
	~flooding	0.60	~flooding	0.60	~too clayey	0.16	~too clayey	0.16		
	(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)			
75404:										
Pinerun-----	Very limited		Limited		Limited		Limited		Limited	
	~droughty	1.00	~small stones	1.00	~droughty	0.63	~droughty	0.63	~droughty	0.63
	(very limited)		(limited)		(limited)		(limited)		(limited)	
	~small stones	1.00	~droughty	0.63	~small stones	0.24	~small stones	0.01		
	(limited)		(limited)		(slightly limited)		(slightly limited)			
	~flooding	0.60	~flooding	0.60						
	(moderately limited)		(moderately limited)							
75405:										
Pinerun-----	Very limited		Very limited		Moderately limited		Moderately limited		Slightly limited	
	~droughty	1.00	~small stones	1.00	~small stones	0.49	~small stones	0.42	~droughty	0.00
	(very limited)		(very limited)		(moderately limited)		(moderately limited)		(slightly limited)	
	~small stones	1.00	~flooding	0.60	~droughty	0.00	~droughty	0.00		
	(very limited)		(moderately limited)		(slightly limited)		(slightly limited)			
	~flooding	0.60	~droughty	0.00						
	(moderately limited)		(slightly limited)							

Table 11a.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75405:										
Waben-----	Limited		Limited		Slightly limited		Slightly limited		Not limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (slightly limited)	0.24	~small stones (slightly limited)	0.01		
	~droughty (slightly limited)	0.30								
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat Suitability

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.30	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	0.87	~small stones	0.87			~slope	0.91
			(limited)		(limited)				(limited)	
			~infrequent flooding	0.80	~droughty	0.30			~seepage	0.45
			(limited)		(slightly limited)				(moderately limited)	
Clarksville----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.16	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.30			~slope	0.91
			(limited)		(slightly limited)				(limited)	
			~small stones	0.30	~droughty	0.16			~seepage	0.45
			(slightly limited)		(slightly limited)				(moderately limited)	
70031:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.03	~infrequent flooding	0.80	~droughty	1.00			~deep to water	1.00
	(slightly limited)		(limited)		(very limited)				(very limited)	
			~large stones	0.03	~large stones	0.03			~seepage	1.00
			(slightly limited)		(slightly limited)				(very limited)	
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.59	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.73			~deep to water	1.00
			(limited)		(limited)				(very limited)	
			~small stones	0.73	~droughty	0.59			~seepage	0.79
			(limited)		(moderately limited)				(limited)	
70032:										
Tonti-----	Moderately limited		Limited		Not limited		Moderately limited		Moderately limited	
	~wetness	0.59	~infrequent flooding	0.80			~deep to water	0.45	~seepage	0.45
	(moderately limited)		(limited)				(moderately limited)		(moderately limited)	
			~deep to water	0.45						
			(moderately limited)							

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00	~soil reaction	0.60	~deep to water	1.00
	(very limited)		(limited)		(very limited)		(limited)		(very limited)	
	~large stones	0.30	~large stones	0.30	~large stones	0.30			~soil reaction	0.60
	(moderately limited)		(moderately limited)		(moderately limited)				(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~small stones	0.87	~deep to water	1.00	~soil reaction	0.60	~deep to water	1.00
	(very limited)		(limited)		(very limited)		(limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.87			~soil reaction	0.60
			(limited)		(limited)				(limited)	
Blueye-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.31	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.30	~infrequent flooding	0.80	~small stones	0.60			~deep to water	1.00
	(slightly limited)		(limited)		(moderately limited)				(very limited)	
			~small stones	0.60	~droughty	0.31				
			(moderately limited)		(moderately limited)					
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	0.06	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.03	~infrequent flooding	0.80	~droughty	0.03			~deep to water	1.00
	(slightly limited)		(limited)		(slightly limited)				(very limited)	
									~seepage	0.39
									(moderately limited)	
Gobbler-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.29	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.30			~deep to water	1.00
			(limited)		(slightly limited)				(very limited)	
			~small stones	0.30	~droughty	0.29			~seepage	0.39
			(slightly limited)		(slightly limited)				(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.58	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.24	~small stones	0.87	~small stones	0.87			~deep to water	1.00
	(slightly limited)		(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.58			~seepage	0.39
			(limited)		(moderately limited)				(moderately limited)	
Gobbler-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.49	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~deep to water	1.00
			(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.49			~seepage	0.45
			(limited)		(moderately limited)				(moderately limited)	
70037:										
Sonsac-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.97	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.13	~infrequent flooding	0.80	~droughty	0.97			~deep to water	1.00
	(slightly limited)		(limited)		(limited)				(very limited)	
			~small stones	0.73	~small stones	0.73			~seepage	0.39
			(limited)		(limited)				(moderately limited)	
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.56	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~deep to water	1.00
			(very limited)		(very limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.56			~seepage	0.45
			(limited)		(moderately limited)				(moderately limited)	
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~deep to water	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00			~slope	0.91
	(very limited)		(limited)		(very limited)				(limited)	
	~large stones	0.68	~large stones	0.68	~large stones	0.68			~seepage	0.45
	(limited)		(limited)		(limited)				(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.56	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.56			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
			~small stones	0.30	~small stones	0.30			~seepage	0.45
			(slightly limited)		(slightly limited)				(moderately limited)	
Goss-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.43	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.43			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
									~seepage	0.45
									(moderately limited)	
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.03	~infrequent flooding	0.80	~droughty	1.00			~deep to water	1.00
	(slightly limited)		(limited)		(very limited)				(very limited)	
			~small stones	0.15	~small stones	0.15			~seepage	1.00
			(slightly limited)		(slightly limited)				(very limited)	
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.59	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~deep to water	1.00
			(very limited)		(very limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.59			~seepage	0.79
			(limited)		(moderately limited)				(limited)	
71252:										
Britwater-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~slope	0.91
			(limited)						(limited)	
									~seepage	0.45
									(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73070:										
Sowcoon-----	Limited		Limited		Limited		Limited		Limited	
	~wetness	0.99	~seasonally ponded	0.80	~seasonally ponded	0.80	~seasonally ponded	0.80	~seasonally ponded	0.80
	(limited)		(limited)		(limited)		(limited)		(limited)	
	~seasonally ponded	0.80	~infrequent flooding	0.80			~deep to water	0.30	~seepage	0.15
	(limited)		(limited)				(slightly limited)		(slightly limited)	
			~deep to water	0.30						
			(slightly limited)							
73113:										
Scholten-----	Limited		Limited		Limited		Moderately limited		Limited	
	~droughty	0.90	~infrequent flooding	0.80	~droughty	0.90	~deep to water	0.45	~slope	0.91
	(limited)		(limited)		(limited)		(moderately limited)		(limited)	
	~wetness	0.59	~deep to water	0.45	~small stones	0.01			~seepage	0.45
	(moderately limited)		(moderately limited)		(slightly limited)				(moderately limited)	
			~small stones	0.01						
			(slightly limited)							
73114:										
Captina-----	Limited		Limited		Not limited		Moderately limited		Moderately limited	
	~wetness	0.79	~infrequent flooding	0.80			~deep to water	0.37	~seepage	0.45
	(limited)		(limited)				(moderately limited)		(moderately limited)	
			~deep to water	0.37						
			(moderately limited)							
73115:										
Horneybuck----	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness	0.85	~infrequent flooding	0.80			~deep to water	0.35	~slope	0.66
	(limited)		(limited)				(moderately limited)		(limited)	
			~deep to water	0.35					~seepage	0.18
			(moderately limited)						(slightly limited)	
Tonti-----	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness	0.66	~infrequent flooding	0.80			~deep to water	0.42	~slope	0.66
	(limited)		(limited)				(moderately limited)		(limited)	
			~deep to water	0.42					~seepage	0.45
			(moderately limited)						(moderately limited)	
73116:										
Pomme-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~seepage	0.45
			(limited)						(moderately limited)	
									~slope	0.31
									(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73117:										
Clarksville----	Limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.66	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~slope	1.00
			(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.66			~seepage	0.45
			(limited)		(limited)				(moderately limited)	
Scholten-----	Limited		Limited		Limited		Moderately limited		Very limited	
	~droughty	0.89	~infrequent flooding	0.80	~droughty	0.89	~deep to water	0.45	~slope	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
	~wetness	0.59	~deep to water	0.45	~small stones	0.30			~seepage	0.45
	(moderately limited)		(moderately limited)		(slightly limited)				(moderately limited)	
			~small stones	0.30						
			(slightly limited)							
Hailey-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.82	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	0.87	~small stones	0.87			~slope	1.00
			(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.82			~seepage	1.00
			(limited)		(limited)				(very limited)	
73118:										
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.56	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.56			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
			~small stones	0.30	~small stones	0.30			~seepage	0.45
			(slightly limited)		(slightly limited)				(moderately limited)	
Goss-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.43	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.43			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
									~seepage	0.45
									(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73119:										
Rueter-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.54	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~deep to water	1.00
			(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.54			~seepage	0.45
			(limited)		(moderately limited)				(moderately limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.03	~infrequent flooding	0.80	~droughty	1.00			~deep to water	1.00
	(slightly limited)		(limited)		(very limited)				(very limited)	
			~small stones	0.38	~small stones	0.38			~seepage	1.00
			(moderately limited)		(moderately limited)				(very limited)	
73120:										
Rueter-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	0.87	~small stones	0.87			~deep to water	1.00
			(limited)		(limited)				(very limited)	
			~infrequent flooding	0.80					~seepage	0.79
			(limited)						(limited)	
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00			~deep to water	1.00
	(very limited)		(limited)		(very limited)				(very limited)	
	~large stones	0.03	~large stones	0.03	~large stones	0.03			~seepage	0.45
	(slightly limited)		(slightly limited)		(slightly limited)				(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness	0.66	~infrequent flooding	0.80			~deep to water	0.42	~slope	0.66
	(limited)		(limited)				(moderately limited)		(limited)	
			~deep to water	0.42					~seepage	0.45
			(moderately limited)						(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73121:										
Tonti-----	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness	0.71	~infrequent flooding	0.80			~deep to water	0.40	~slope	0.66
	(limited)		(limited)				(moderately limited)		(limited)	
			~deep to water	0.40					~seepage	0.45
			(moderately limited)						(moderately limited)	
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00	~soil reaction	0.00	~deep to water	1.00
	(very limited)		(limited)		(very limited)		(slightly limited)		(very limited)	
	~large stones	0.03	~large stones	0.03	~large stones	0.03			~seepage	0.45
	(slightly limited)		(slightly limited)		(slightly limited)				(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.00			~slope	1.00
			(limited)		(slightly limited)				(very limited)	
Ocie-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~slope	1.00
			(limited)						(very limited)	
73124:										
Alred-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.11	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.60			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
			~small stones	0.60	~droughty	0.11				
			(moderately limited)		(slightly limited)					
Ocie-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~deep to water	1.00
			(limited)						(very limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~deep to water	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00	~soil reaction	0.66	~slope	1.00
	(very limited)		(limited)		(very limited)		(limited)		(very limited)	
	~large stones	0.03	~large stones	0.03	~large stones	0.03			~soil reaction	0.66
	(slightly limited)		(slightly limited)		(slightly limited)				(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00	~soil reaction	0.66	~deep to water	1.00
	(very limited)		(limited)		(very limited)		(limited)		(very limited)	
									~soil reaction	0.66
									(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.03	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.03			~slope	0.91
			(limited)		(slightly limited)				(limited)	
									~seepage	0.42
									(moderately limited)	
Sonsac-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	0.15	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.04	~infrequent flooding	0.80	~droughty	0.04			~slope	1.00
	(slightly limited)		(limited)		(slightly limited)				(very limited)	
									~seepage	0.42
									(moderately limited)	
73128:										
Gobbler-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.50	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.50			~deep to water	1.00
			(limited)		(moderately limited)				(very limited)	
			~small stones	0.01	~small stones	0.01			~seepage	0.45
			(slightly limited)		(slightly limited)				(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73128:										
Sonsac-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.61	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.46	~infrequent flooding	0.80	~droughty	0.61			~deep to water	1.00
	(moderately limited)		(limited)		(limited)				(very limited)	
									~seepage	0.39
									(moderately limited)	
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~deep to water	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00			~slope	0.91
	(very limited)		(limited)		(very limited)				(limited)	
									~seepage	0.18
									(slightly limited)	
Blueeye-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.31	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.30	~infrequent flooding	0.80	~small stones	0.60			~slope	0.91
	(slightly limited)		(limited)		(moderately limited)				(limited)	
			~small stones	0.60	~droughty	0.31				
			(moderately limited)		(moderately limited)					
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~droughty	1.00			~deep to water	1.00
	(very limited)		(limited)		(very limited)				(very limited)	
			~small stones	0.60	~small stones	0.60			~seepage	0.18
			(moderately limited)		(moderately limited)				(slightly limited)	
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~droughty	1.00			~deep to water	1.00
	(very limited)		(limited)		(very limited)				(very limited)	
			~small stones	0.60	~small stones	0.60			~seepage	0.18
			(moderately limited)		(moderately limited)				(slightly limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73131:										
Blueye-----	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.31	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.30	~infrequent flooding	0.80	~small stones	0.60			~deep to water	1.00
	(slightly limited)		(limited)		(moderately limited)				(very limited)	
			~small stones	0.60	~droughty	0.31				
			(moderately limited)		(moderately limited)					
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~deep to water	1.00	~droughty	1.00	~deep to water	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~infrequent flooding	0.80	~deep to water	1.00			~deep to water	1.00
	(very limited)		(limited)		(very limited)				(very limited)	
	~large stones	0.60	~large stones	0.60	~large stones	0.60			~seepage	0.45
	(limited)		(limited)		(limited)				(moderately limited)	
73133:										
Alred-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.11	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~droughty	0.11			~slope	0.91
			(limited)		(slightly limited)				(limited)	
Ocie-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~slope	0.91
			(limited)						(limited)	
73134:										
Alred-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.02	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.30			~deep to water	1.00
			(limited)		(slightly limited)				(very limited)	
			~small stones	0.30	~droughty	0.02				
			(slightly limited)		(slightly limited)					
Ocie-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~deep to water	1.00
			(limited)						(very limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73134:										
Sonsac-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	0.18	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.12	~infrequent flooding	0.80	~droughty	0.12			~deep to water	1.00
	(slightly limited)		(limited)		(slightly limited)				(very limited)	
									~seepage	0.45
									(moderately limited)	
74638:										
Waben-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.01			~slope	0.91
			(limited)		(slightly limited)				(limited)	
			~small stones	0.01					~seepage	0.79
			(slightly limited)						(limited)	
74639:										
Waben-----	Slightly limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	0.04	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~slope	1.00
	(slightly limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~small stones	1.00	~small stones	1.00			~deep to water	1.00
			(very limited)		(very limited)				(very limited)	
			~infrequent flooding	0.80	~droughty	0.04			~seepage	0.79
			(limited)		(slightly limited)				(limited)	
74640:										
Hootentown----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80					~seepage	0.45
			(limited)						(moderately limited)	
75401:										
Horsecreek-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.50					~seepage	0.45
			(moderately limited)						(moderately limited)	
Jamesfin-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.50					~seepage	0.45
			(moderately limited)						(moderately limited)	

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees	Riparian herbaceous plants	Riparian shrubs, vines, and trees	Freshwater wetland plants	Irrigated freshwater wetland plants
	Limitation	Value	Limitation	Value	Limitation
75402:					
Pinerun-----	Not limited		Very limited	Very limited	Very limited
			~deep to water	1.00	~deep to water
			(very limited)		(very limited)
			~infrequent flooding	0.50	~seepage
			(moderately limited)		(moderately limited)
75403:					
Cedargap-----	Limited		Very limited	Very limited	Very limited
	~droughty	0.97	~deep to water	1.00	~deep to water
	(limited)		(very limited)		(very limited)
			~small stones	0.73	~seepage
			(limited)		(moderately limited)
			~infrequent flooding	0.50	
			(moderately limited)		
Woolly-----	Limited		Very limited	Very limited	Very limited
	~droughty	0.90	~deep to water	1.00	~deep to water
	(limited)		(very limited)		(very limited)
			~small stones	0.87	~seepage
			(limited)		(moderately limited)
			~infrequent flooding	0.50	~slope
			(moderately limited)		(slightly limited)
75404:					
Pinerun-----	Limited		Very limited	Very limited	Very limited
	~droughty	0.63	~deep to water	1.00	~deep to water
	(limited)		(very limited)		(very limited)
			~infrequent flooding	0.50	~seepage
			(moderately limited)		(moderately limited)
			~small stones	0.01	
			(slightly limited)		(slightly limited)
75405:					
Pinerun-----	Slightly limited		Very limited	Very limited	Very limited
	~droughty	0.00	~deep to water	1.00	~deep to water
	(slightly limited)		(very limited)		(very limited)
			~infrequent flooding	0.50	~seepage
			(moderately limited)		(moderately limited)
			~small stones	0.42	
			(moderately limited)		(moderately limited)
			~small stones	0.42	~droughty
			(moderately limited)		(slightly limited)

Table 11b.--Wildlife Habitat Suitability--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
75405:										
Waben-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water	1.00	~deep to water	1.00	~deep to water	1.00	~deep to water	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
			~infrequent flooding	0.80	~small stones	0.01			~seepage	0.79
			(limited)		(slightly limited)				(limited)	
			~small stones	0.01					~slope	0.31
			(slightly limited)						(moderately limited)	
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Moderately limited		Moderately limited		Limited		Moderately limited		Very limited	
	~shrink-swell	0.45	~shrink-swell	0.33	~slope	0.68	~shrink-swell	0.45	~small stones	1.00
	(moderately limited)		(moderately limited)		(limited)		(moderately limited)		(very limited)	
					~shrink-swell	0.45			~droughty	0.30
					(moderately limited)				(slightly limited)	
									~too acid	0.06
									(slightly limited)	
Clarksville----	Slightly limited		Slightly limited		Limited		Slightly limited		Very limited	
	~large stones	0.04	~shrink-swell	0.05	~slope	0.68	~large stones	0.04	~small stones	1.00
	(slightly limited)		(slightly limited)		(limited)		(slightly limited)		(very limited)	
			~large stones	0.04	~large stones	0.04			~droughty	0.16
			(slightly limited)		(slightly limited)				(slightly limited)	
70031:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.92	~large stones	0.92	~large stones	0.92	~large stones	0.92	~droughty	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~small stones	0.95
									(limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
									~small stones	1.00
									(very limited)	
									~droughty	0.59
									(moderately limited)	
70032:										
Tonti-----	Slightly limited		Very limited		Slightly limited		Slightly limited		Moderately limited	
	~wetness	0.28	~wetness	1.00	~wetness	0.28	~wetness	0.28	~small stones	0.33
	(slightly limited)		(very limited)		(slightly limited)		(slightly limited)		(moderately limited)	
									~wetness	0.28
									(slightly limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.68	~slope	0.68	~slope	1.00	~low strength	1.00	~bedrock <20 in.	1.00
	(limited)		(limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.60	~large stones	0.60	~large stones	0.60	~large stones	0.60	~large stones >30%	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
									~bedrock <20 in.	1.00
									(very limited)	
Blueye-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~low strength	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~hard bedrock	0.45	~slope	1.00	~depth to bedrock	0.45	~shrink-swell	1.00	~too clayey	0.60
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~large stones	0.45
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
	~hard bedrock	0.12	~slope	1.00	~depth to bedrock	0.12	~depth to bedrock	0.12	~small stones	0.09
	(slightly limited)		(very limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.79	~depth to bedrock	0.75	~shrink-swell	0.79	~shrink-swell	0.79	~small stones	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
			~shrink-swell	0.73			~low strength	0.78	~droughty	0.29
			(limited)				(limited)		(slightly limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	1.00	~hard bedrock <40"	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~hard bedrock	0.39	~shrink-swell	1.00	~depth to bedrock	0.39	~depth to bedrock	0.39	~droughty	0.58
	(moderately limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.79	~depth to bedrock	0.72	~shrink-swell	0.79	~shrink-swell	0.79	~small stones	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
			~shrink-swell	0.54					~droughty	0.49
			(moderately limited)						(moderately limited)	
70037:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~hard bedrock <40"	1.00	~shrink-swell	0.45	~shrink-swell	0.45	~small stones	1.00
	(moderately limited)		(very limited)		(moderately limited)		(moderately limited)		(very limited)	
	~hard bedrock	0.25	~shrink-swell	0.28	~depth to bedrock	0.25	~depth to bedrock	0.25	~droughty	0.97
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~shrink-swell	0.02					~small stones	1.00
			(slightly limited)						(very limited)	
									~droughty	0.56
									(moderately limited)	
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.75	~large stones	0.75	~large stones	0.75	~low strength	1.00	~bedrock <20 in.	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
					~slope	0.68	~large stones	0.75	~large stones >30%	1.00
					(limited)		(limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
70050:										
Rueter-----	Limited		Limited		Very limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	1.00
	(limited)		(limited)		(very limited)		(limited)		(very limited)	
	~large stones	0.00	~shrink-swell	0.14	~large stones	0.00	~large stones	0.00	~slope	0.63
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(limited)	
			~large stones	0.00					~droughty	0.56
			(slightly limited)						(moderately limited)	
Goss-----	Limited		Limited		Very limited		Limited		Limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	0.82
	(limited)		(limited)		(very limited)		(limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.30	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.63
	(moderately limited)		(slightly limited)		(moderately limited)		(moderately limited)		(limited)	
									~droughty	0.43
									(moderately limited)	
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.98	~large stones	0.98	~large stones	0.98	~large stones	0.98	~droughty	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~small stones	1.00
									(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
									~small stones	1.00
									(very limited)	
									~droughty	0.59
									(moderately limited)	
71252:										
Britwater-----	Not limited		Not limited		Limited		Not limited		Moderately limited	
					~slope	0.68			~small stones	0.33
					(limited)				(moderately limited)	
									~too acid	0.24
									(slightly limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
73070:										
Sowcoon-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~ponded	1.00	~ponded	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~wetness	0.60	~wetness	1.00	~wetness	0.60	~wetness	0.60	~wetness	0.60
	(limited)		(very limited)		(limited)		(limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~too acid	0.06
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)	
73113:										
Scholten-----	Slightly limited		Very limited		Limited		Slightly limited		Very limited	
	~wetness	0.28	~wetness	1.00	~slope	0.68	~wetness	0.28	~small stones	1.00
	(slightly limited)		(very limited)		(limited)		(slightly limited)		(limited)	
					~wetness	0.28			~droughty	0.90
					(slightly limited)				(limited)	
									~wetness	0.28
									(slightly limited)	
73114:										
Captina-----	Moderately limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~wetness	0.45	~wetness	1.00	~wetness	0.45	~low strength	1.00	~wetness	0.45
	(moderately limited)		(very limited)		(moderately limited)		(very limited)		(moderately limited)	
							~wetness	0.45		
							(moderately limited)			
73115:										
Horneybuck----	Moderately limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~wetness	0.49	~wetness	1.00	~wetness	0.49	~wetness	0.49	~wetness	0.49
	(moderately limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~slope	0.45			~too acid	0.12
					(moderately limited)				(slightly limited)	
Tonti-----	Moderately limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~wetness	0.34	~wetness	1.00	~slope	0.45	~wetness	0.34	~wetness	0.34
	(moderately limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~wetness	0.34				
					(moderately limited)					
73116:										
Pomme-----	Not limited		Not limited		Slightly limited		Not limited		Not limited	
					~slope	0.15				
					(slightly limited)					

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73117:										
Clarksville----	Moderately limited		Moderately limited		Limited		Not limited		Very limited	
	~slope	0.30	~slope	0.30	~slope	0.99			~small stones	1.00
	(moderately limited)		(moderately limited)		(limited)				(very limited)	
			~shrink-swell	0.07					~droughty	0.66
			(slightly limited)						(limited)	
Scholten-----	Moderately limited		Very limited		Limited		Slightly limited		Very limited	
	~slope	0.30	~wetness	1.00	~slope	0.99	~wetness	0.28	~small stones	1.00
	(moderately limited)		(very limited)		(limited)		(slightly limited)		(very limited)	
	~wetness	0.28	~slope	0.30	~wetness	0.28			~droughty	0.89
	(slightly limited)		(moderately limited)		(slightly limited)				(limited)	
									~wetness	0.28
									(slightly limited)	
Hailey-----	Moderately limited		Moderately limited		Limited		Not limited		Very limited	
	~slope	0.30	~slope	0.30	~slope	0.99			~small stones	1.00
	(moderately limited)		(moderately limited)		(limited)				(very limited)	
									~droughty	0.82
									(limited)	
73118:										
Rueter-----	Limited		Limited		Very limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	1.00
	(limited)		(limited)		(very limited)		(limited)		(very limited)	
	~large stones	0.00	~shrink-swell	0.14	~large stones	0.00	~large stones	0.00	~slope	0.63
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(limited)	
			~large stones	0.00					~droughty	0.56
			(slightly limited)						(moderately limited)	
Goss-----	Limited		Limited		Very limited		Limited		Limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	0.82
	(limited)		(limited)		(very limited)		(limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.30	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.63
	(moderately limited)		(slightly limited)		(moderately limited)		(moderately limited)		(limited)	
									~droughty	0.43
									(moderately limited)	
73119:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~shrink-swell	0.12					~small stones	1.00
			(slightly limited)						(very limited)	
									~droughty	0.54
									(moderately limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73119:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.98	~large stones	0.98	~large stones	0.98	~large stones	0.98	~small stones	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~droughty	1.00
									(very limited)	
73120:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
									~small stones	1.00
									(very limited)	
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~hard bedrock <20"	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~large stones	0.15	~shrink-swell	0.45	~low strength	1.00	~bedrock <20 in.	1.00
	(moderately limited)		(slightly limited)		(moderately limited)		(very limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Moderately limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~wetness	0.34	~wetness	1.00	~slope	0.45	~wetness	0.34	~wetness	0.34
	(moderately limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~wetness	0.34				
					(moderately limited)					
Tonti-----	Moderately limited		Very limited		Moderately limited		Limited		Moderately limited	
	~wetness	0.39	~wetness	1.00	~slope	0.45	~low strength	0.78	~wetness	0.39
	(moderately limited)		(very limited)		(moderately limited)		(limited)		(moderately limited)	
					~wetness	0.39	~wetness	0.39		
					(moderately limited)		(moderately limited)			
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~hard bedrock <20"	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~large stones	0.15	~shrink-swell	0.45	~shrink-swell	0.45	~bedrock <20 in.	1.00
	(moderately limited)		(slightly limited)		(moderately limited)		(moderately limited)		(very limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73122:										
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Moderately limited		Limited		Very limited		Slightly limited		Limited	
	~slope	0.45	~shrink-swell	0.66	~slope	1.00	~slope	0.04	~small stones	0.82
	(moderately limited)		(limited)		(very limited)		(slightly limited)		(limited)	
			~slope	0.45					~large stones	0.30
			(moderately limited)						(moderately limited)	
									~slope	0.04
									(slightly limited)	
Ocie-----	Moderately limited		Moderately limited		Very limited		Moderately limited		Limited	
	~slope	0.45	~depth to bedrock	0.54	~slope	1.00	~shrink-swell	0.45	~small stones	0.91
	(moderately limited)		(moderately limited)		(very limited)		(moderately limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.53	~shrink-swell	0.45	~slope	0.04	~too acid	0.18
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
			~slope	0.45					~slope	0.04
			(moderately limited)						(slightly limited)	
73124:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~shrink-swell	0.57					~small stones	1.00
			(moderately limited)						(very limited)	
									~too acid	0.24
									(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	0.79	~shrink-swell	1.00	~low strength	1.00	~small stones	0.48
	(very limited)		(limited)		(very limited)		(very limited)		(moderately limited)	
			~shrink-swell	0.59			~shrink-swell	1.00		
			(moderately limited)				(very limited)			
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.45	~slope	0.45	~slope	1.00	~large stones	0.15	~bedrock <20 in.	1.00
	(moderately limited)		(moderately limited)		(very limited)		(slightly limited)		(very limited)	
	~large stones	0.15	~large stones	0.15	~large stones	0.15	~slope	0.04	~large stones	0.79
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.04	~large stones	0.04	~large stones	0.04	~large stones	0.04	~bedrock <20 in.	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Moderately limited		Limited		Limited		Moderately limited		Slightly limited	
	~shrink-swell	0.45	~depth to bedrock	0.64	~slope	0.68	~shrink-swell	0.45	~small stones	0.06
	(moderately limited)		(limited)		(limited)		(moderately limited)		(slightly limited)	
			~shrink-swell	0.33	~shrink-swell	0.45			~droughty	0.03
			(moderately limited)		(moderately limited)				(slightly limited)	
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Slightly limited	
	~shrink-swell	1.00	~hard bedrock <40"	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~depth to bedrock	0.15
	(very limited)		(very limited)		(very limited)		(very limited)		(slightly limited)	
	~hard bedrock	0.30	~shrink-swell	1.00	~slope	0.83	~depth to bedrock	0.30	~droughty	0.04
	(slightly limited)		(very limited)		(limited)		(slightly limited)		(slightly limited)	
	~slope	0.15	~slope	0.15	~depth to bedrock	0.30				
	(slightly limited)		(slightly limited)		(slightly limited)					
73128:										
Gobbler-----	Limited		Limited		Very limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	1.00
	(limited)		(limited)		(very limited)		(limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.47	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.63
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
			~depth to bedrock	0.44					~droughty	0.50
			(moderately limited)						(moderately limited)	
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell	1.00	~hard bedrock <40"	1.00	~slope	1.00	~low strength	1.00	~small stones	0.64
	(very limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~slope	0.76	~shrink-swell	1.00	~shrink-swell	1.00	~shrink-swell	1.00	~slope	0.63
	(limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~hard bedrock	0.53	~slope	0.76	~depth to bedrock	0.53	~slope	0.63	~droughty	0.61
	(moderately limited)		(limited)		(moderately limited)		(limited)		(limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.68	~low strength	1.00	~bedrock <20 in.	1.00
	(moderately limited)		(moderately limited)		(limited)		(very limited)		(very limited)	
	~large stones	0.35	~large stones	0.35	~shrink-swell	0.45	~shrink-swell	0.45	~too clayey	0.60
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.68	~slope	0.68	~slope	1.00	~shrink-swell	0.45	~bedrock <20 in.	1.00
	(limited)		(limited)		(very limited)		(moderately limited)		(very limited)	
	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.37	~small stones	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20"	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~bedrock <20 in.	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~hard bedrock <40"	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~hard bedrock <20"	1.00	~slope	1.00	~hard bedrock <20"	1.00	~hard bedrock <20"	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	1.00	~large stones	1.00	~large stones	1.00	~low strength	1.00	~bedrock <20 in.	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
73133:										
Alred-----	Slightly limited		Slightly limited		Limited		Slightly limited		Moderately limited	
	~large stones	0.10	~shrink-swell	0.29	~slope	0.68	~large stones	0.10	~small stones	0.48
	(slightly limited)		(slightly limited)		(limited)		(slightly limited)		(moderately limited)	
			~large stones	0.10	~large stones	0.10			~droughty	0.11
			(slightly limited)		(slightly limited)				(slightly limited)	
Ocie-----	Moderately limited		Limited		Limited		Moderately limited		Not limited	
	~shrink-swell	0.45	~depth to bedrock	0.79	~slope	0.68	~shrink-swell	0.45		
	(moderately limited)		(limited)		(limited)		(moderately limited)			
			~shrink-swell	0.76	~shrink-swell	0.45				
			(limited)		(moderately limited)					

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73134:										
Alred-----	Limited		Limited		Very limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	1.00
	(limited)		(limited)		(very limited)		(limited)		(very limited)	
			~shrink-swell	0.62					~slope	0.63
			(limited)						(limited)	
									~droughty	0.02
									(slightly limited)	
Ocie-----	Limited		Limited		Very limited		Limited		Limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	0.64
	(limited)		(limited)		(very limited)		(limited)		(limited)	
	~shrink-swell	0.45	~depth to bedrock	0.75	~shrink-swell	0.45	~shrink-swell	0.45	~slope	0.63
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(limited)	
			~shrink-swell	0.57					~too acid	0.18
			(moderately limited)						(slightly limited)	
Sonsac-----	Limited		Very limited		Very limited		Very limited		Limited	
	~slope	0.76	~hard bedrock <40"	1.00	~slope	1.00	~low strength	1.00	~slope	0.63
	(limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~shrink-swell	0.45	~slope	0.76	~shrink-swell	0.45	~slope	0.63	~small stones	0.48
	(moderately limited)		(limited)		(moderately limited)		(limited)		(moderately limited)	
	~hard bedrock	0.33	~shrink-swell	0.33	~depth to bedrock	0.33	~shrink-swell	0.45	~depth to bedrock	0.18
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)	
74638:										
Waben-----	Slightly limited		Slightly limited		Limited		Slightly limited		Very limited	
	~large stones	0.00	~large stones	0.00	~slope	0.68	~large stones	0.00	~small stones	1.00
	(slightly limited)		(slightly limited)		(limited)		(slightly limited)		(limited)	
					~large stones	0.00				
					(slightly limited)					
74639:										
Waben-----	Limited		Limited		Very limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	1.00	~slope	0.63	~small stones	1.00
	(limited)		(limited)		(very limited)		(limited)		(very limited)	
									~slope	0.63
									(limited)	
									~too acid	0.48
									(moderately limited)	
74640:										
Hootentown----	Very limited		Very limited		Very limited		Limited		Not limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding (rare)	0.90		
	(very limited)		(very limited)		(very limited)		(limited)			

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75401:										
Horsecreek-----	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	0.60
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
							~low strength	1.00		
							(very limited)			
Jamesfin-----	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	0.60
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
							~low strength	0.78		
							(limited)			
75402:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	0.60
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
			~shrink-swell	0.08						
			(slightly limited)							
75403:										
Cedargap-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
									~droughty	0.97
									(limited)	
									~flooding	0.60
									(moderately limited)	
Woolly-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~depth to bedrock	0.60					~droughty	0.90
			(limited)						(limited)	
									~flooding	0.60
									(moderately limited)	
75404:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~shrink-swell	0.45	~droughty	0.63
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
									~flooding	0.60
									(moderately limited)	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
75405:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~shrink-swell	0.45	~shrink-swell	0.43	~shrink-swell	0.45	~shrink-swell	0.45	~flooding	0.60
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
									~large stones	0.01
									(slightly limited)	
Waben-----	Not limited		Not limited		Slightly limited		Not limited		Very limited	
					~slope	0.15			~small stones	1.00
					(slightly limited)				(limited)	
									~too acid	0.24
									(slightly limited)	
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Slightly limited		Limited		Very limited		Not limited		Very limited	
	~percs slowly	0.25	~slope	0.91	~too clayey	1.00			~small stones >35%	1.00
	(slightly limited)		(limited)		(very limited)				(very limited)	
			~seepage	0.50	~too acid	0.68			~too clayey	1.00
			(moderately limited)		(limited)				(very limited)	
									~too acid	0.68
									(limited)	
Clarksville----	Slightly limited		Very limited		Limited		Limited		Limited	
	~percs slowly	0.25	~seepage	1.00	~too clayey	0.83	~seepage	0.75	~small stones	0.93
	(slightly limited)		(very limited)		(limited)		(limited)		(limited)	
	~large stones	0.04	~slope	0.91	~too acid	0.54			~too clayey	0.66
	(slightly limited)		(limited)		(moderately limited)				(limited)	
					~large stones	0.12			~too acid	0.54
					(slightly limited)				(moderately limited)	
70031:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~seepage	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~poor filter	1.00	~seepage	1.00	~seepage	1.00	~seepage	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.92	~large stones	1.00	~large stones	0.97			~large stones	0.95
	(limited)		(very limited)		(limited)				(limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	1.00	~too clayey	0.90	~seepage	0.75	~small stones >35%	1.00
	(slightly limited)		(very limited)		(limited)		(limited)		(very limited)	
									~too clayey	0.80
									(limited)	
70032:										
Tonti-----	Very limited		Very limited		Limited		Limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	0.99	~wetness	0.80	~too clayey	0.87
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.94			~wetness	0.50
	(slightly limited)		(moderately limited)		(limited)				(moderately limited)	
									~small stones	0.41
									(moderately limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.60	~depth to bedrock	1.00	~slope	0.37	~slope	0.37	~slope	0.37
	(limited)		(very limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~slope	0.37							~large stones	0.32
	(moderately limited)								(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
					~too clayey	0.01			~small stones >35%	1.00
					(slightly limited)				(very limited)	
Blueye-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.93			~too clayey	0.79			~hard to pack	0.70
	(limited)				(limited)				(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.37	~seepage	0.18	~too clayey	0.77			~small stones	0.94
	(moderately limited)		(slightly limited)		(limited)				(limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.75	~depth to bedrock	0.75	~depth to bedrock	1.00	~depth to bedrock	0.57	~too clayey	1.00
	(limited)		(limited)		(very limited)		(moderately limited)		(very limited)	
	~percs slowly	0.37	~seepage	0.18	~too clayey	1.00			~depth to bedrock	0.57
	(moderately limited)		(slightly limited)		(very limited)				(moderately limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.37	~seepage	0.50	~too clayey	0.87			~small stones	0.94
	(moderately limited)		(moderately limited)		(limited)				(limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.72	~seepage	0.92	~depth to bedrock	1.00	~depth to bedrock	0.54	~small stones >35%	1.00
	(limited)		(limited)		(very limited)		(moderately limited)		(very limited)	
	~percs slowly	0.25	~depth to bedrock	0.72	~too clayey	0.83			~too clayey	0.66
	(slightly limited)		(limited)		(limited)				(limited)	
70037:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.37	~seepage	0.18	~too clayey	1.00			~small stones >35%	1.00
	(moderately limited)		(slightly limited)		(very limited)				(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	1.00	~too clayey	1.00	~seepage	0.75	~small stones >35%	1.00
	(slightly limited)		(very limited)		(very limited)		(limited)		(very limited)	
									~too clayey	1.00
									(very limited)	
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.75	~slope	0.91	~too sandy	1.00			~too sandy	1.00
	(limited)		(limited)		(very limited)				(very limited)	
			~large stones	0.08	~too acid	1.00			~too acid	1.00
			(slightly limited)		(very limited)				(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Limited		Very limited		Very limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~too clayey	1.00	~slope	0.63	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~slope	0.63			~small stones >35%	1.00
	(slightly limited)		(moderately limited)		(limited)				(very limited)	
	~large stones	0.00			~too acid	0.30			~slope	0.63
	(slightly limited)				(slightly limited)				(limited)	
Goss-----	Limited		Very limited		Limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~too clayey	0.98	~slope	0.63	~small stones >35%	1.00
	(limited)		(very limited)		(limited)		(limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~slope	0.63			~too clayey	0.96
	(slightly limited)		(moderately limited)		(limited)				(limited)	
					~too acid	0.24			~slope	0.63
					(slightly limited)				(limited)	
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~seepage	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~poor filter	1.00	~seepage	1.00	~seepage	1.00	~seepage	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.98	~large stones	1.00	~large stones	1.00			~large stones >35%	1.00
	(limited)		(very limited)		(very limited)				(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	1.00	~too clayey	0.90	~seepage	0.75	~small stones >35%	1.00
	(slightly limited)		(very limited)		(limited)		(limited)		(very limited)	
									~too clayey	0.80
									(limited)	
71252:										
Britwater-----	Slightly limited		Limited		Moderately limited		Not limited		Moderately limited	
	~percs slowly	0.25	~slope	0.91	~too clayey	0.31			~small stones	0.49
	(slightly limited)		(limited)		(moderately limited)				(moderately limited)	
			~seepage	0.50	~too acid	0.12			~too clayey	0.16
			(moderately limited)		(slightly limited)				(slightly limited)	
									~too acid	0.12
									(slightly limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73070:										
Sowcoon-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~ponded (wetness)	1.00	~wetness	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~wetness	1.00	~ponded (wetness)	1.00	~wetness	1.00	~wetness	0.99	~wetness	0.60
	(very limited)		(very limited)		(very limited)		(limited)		(moderately limited)	
	~percs slowly	0.74	~seepage	0.50						
	(limited)		(moderately limited)							
73113:										
Scholten-----	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness	1.00	~wetness	1.00	~too clayey	1.00	~wetness	0.80	~too clayey	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
			~slope	0.91	~wetness	0.99			~small stones	0.97
			(limited)		(limited)				(limited)	
			~seepage	0.50					~wetness	0.50
			(moderately limited)						(moderately limited)	
73114:										
Captina-----	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.90	~too clayey	0.84
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	~percs slowly	0.25	~seepage	0.68	~too clayey	0.92			~wetness	0.55
	(slightly limited)		(limited)		(limited)				(moderately limited)	
73115:										
Horneybuck----	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.93	~small stones	0.78
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	~percs slowly	0.71	~slope	0.66	~too clayey	0.36			~wetness	0.57
	(limited)		(limited)		(moderately limited)				(moderately limited)	
			~seepage	0.50	~too acid	0.30			~too acid	0.30
			(moderately limited)		(slightly limited)				(slightly limited)	
Tonti-----	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.83	~too clayey	0.87
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	~percs slowly	0.25	~slope	0.66	~too clayey	0.94			~wetness	0.52
	(slightly limited)		(limited)		(limited)				(moderately limited)	
			~seepage	0.50						
			(moderately limited)							

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73116:										
Pomme-----	Slightly limited		Moderately limited		Very limited		Not limited		Very limited	
	~percs slowly	0.25	~seepage	0.50	~too clayey	1.00			~small stones >35%	1.00
	(slightly limited)		(moderately limited)		(very limited)				(very limited)	
			~slope	0.31	~too acid	0.18			~too clayey	1.00
			(moderately limited)		(slightly limited)				(very limited)	
									~too acid	0.18
									(slightly limited)	
73117:										
Clarksville----	Slightly limited		Very limited		Limited		Limited		Very limited	
	~percs slowly	0.25	~seepage	1.00	~too clayey	0.82	~seepage	0.75	~small stones >35%	1.00
	(slightly limited)		(very limited)		(limited)		(limited)		(very limited)	
			~slope	1.00	~too acid	0.36			~too clayey	0.64
			(very limited)		(moderately limited)				(limited)	
					~large stones	0.06			~too acid	0.36
					(slightly limited)				(moderately limited)	
Scholten-----	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness	1.00	~wetness	1.00	~too clayey	1.00	~wetness	0.80	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~percs slowly	0.25	~slope	1.00	~wetness	0.99			~too clayey	1.00
	(slightly limited)		(very limited)		(limited)				(very limited)	
			~seepage	0.50	~too acid	0.12			~wetness	0.50
			(moderately limited)		(slightly limited)				(moderately limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~poor filter	1.00	~seepage	1.00	~seepage	1.00	~seepage	1.00	~seepage	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~slope	1.00					~small stones >35%	1.00
			(very limited)						(very limited)	
73118:										
Rueter-----	Limited		Very limited		Very limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~too clayey	1.00	~slope	0.63	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~slope	0.63			~small stones >35%	1.00
	(slightly limited)		(moderately limited)		(limited)				(very limited)	
	~large stones	0.00			~too acid	0.30			~slope	0.63
	(slightly limited)				(slightly limited)				(limited)	
Goss-----	Limited		Very limited		Limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~too clayey	0.98	~slope	0.63	~small stones >35%	1.00
	(limited)		(very limited)		(limited)		(limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~slope	0.63			~too clayey	0.96
	(slightly limited)		(moderately limited)		(limited)				(limited)	
					~too acid	0.24			~slope	0.63
					(slightly limited)				(limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73119:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.92			~small stones >35%	1.00
	(slightly limited)		(moderately limited)		(limited)				(very limited)	
									~too clayey	0.84
									(limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~seepage	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~poor filter	1.00	~seepage	1.00	~seepage	1.00	~seepage	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.98	~large stones	1.00	~large stones	1.00			~large stones >35%	1.00
	(limited)		(very limited)		(very limited)				(very limited)	
73120:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	1.00	~too clayey	0.87	~seepage	0.75	~small stones >35%	1.00
	(slightly limited)		(very limited)		(limited)		(limited)		(very limited)	
									~too clayey	0.73
									(limited)	
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.15							~small stones	0.01
	(slightly limited)								(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.83	~too clayey	0.83
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	~percs slowly	0.25	~slope	0.66	~too clayey	0.92			~wetness	0.52
	(slightly limited)		(limited)		(limited)				(moderately limited)	
			~seepage	0.50					~small stones	0.35
			(moderately limited)						(moderately limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73121:										
Tonti-----	Very limited		Very limited		Very limited		Limited		Moderately limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.86	~wetness	0.53
	(very limited)		(very limited)		(very limited)		(limited)		(moderately limited)	
	~percs slowly	0.25	~slope	0.66	~too clayey	0.25			~too clayey	0.11
	(slightly limited)		(limited)		(slightly limited)				(slightly limited)	
			~seepage	0.50						
			(moderately limited)							
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.15							~small stones	0.76
	(slightly limited)								(limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Limited		Very limited		Very limited		Slightly limited		Very limited	
	~percs slowly	0.93	~slope	1.00	~too clayey	1.00	~slope	0.04	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(slightly limited)		(very limited)	
	~slope	0.04	~seepage	0.50	~slope	0.04			~hard to pack	0.70
	(slightly limited)		(moderately limited)		(slightly limited)				(limited)	
									~small stones	0.38
									(moderately limited)	
Ocie-----	Limited		Very limited		Very limited		Moderately limited		Very limited	
	~percs slowly	0.93	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	0.39	~small stones >35%	1.00
	(limited)		(very limited)		(very limited)		(moderately limited)		(very limited)	
	~depth to bedrock	0.54	~depth to bedrock	0.54	~too clayey	1.00	~slope	0.04	~too clayey	0.99
	(moderately limited)		(moderately limited)		(very limited)		(slightly limited)		(very limited)	
	~slope	0.04			~slope	0.04			~depth to bedrock	0.39
	(slightly limited)				(slightly limited)				(moderately limited)	
73124:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.94	~seepage	0.50	~too clayey	0.81			~small stones >35%	1.00
	(limited)		(moderately limited)		(limited)				(very limited)	
					~too acid	0.48			~too clayey	0.62
					(moderately limited)				(limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73124:										
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.93	~depth to bedrock	0.79	~depth to bedrock	1.00	~depth to bedrock	0.60	~too clayey	0.73
	(limited)		(limited)		(very limited)		(limited)		(limited)	
	~depth to bedrock	0.79	~seepage	0.50	~too clayey	0.87			~hard to pack	0.70
	(limited)		(moderately limited)		(limited)				(limited)	
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.15	~slope	1.00	~slope	0.04	~slope	0.04	~small stones	0.76
	(slightly limited)		(very limited)		(slightly limited)		(slightly limited)		(limited)	
	~slope	0.04							~slope	0.04
	(slightly limited)								(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.04							~small stones	0.03
	(slightly limited)								(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Limited		Limited		Very limited		Moderately limited		Very limited	
	~depth to bedrock	0.64	~slope	0.91	~depth to bedrock	1.00	~depth to bedrock	0.48	~too clayey	1.00
	(limited)		(limited)		(very limited)		(moderately limited)		(very limited)	
	~percs slowly	0.45	~depth to bedrock	0.64	~too clayey	1.00			~small stones	0.95
	(moderately limited)		(limited)		(very limited)				(limited)	
			~seepage	0.32					~depth to bedrock	0.48
			(moderately limited)						(moderately limited)	
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.30	~slope	1.00	~too clayey	0.60			~small stones	0.81
	(slightly limited)		(very limited)		(moderately limited)				(limited)	
			~seepage	0.32	~too acid	0.06			~too clayey	0.30
			(moderately limited)		(slightly limited)				(moderately limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73128:										
Gobbler-----	Limited		Very limited		Very limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~depth to bedrock	1.00	~slope	0.63	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~depth to bedrock	0.44	~seepage	0.92	~too clayey	1.00	~depth to bedrock	0.30	~small stones	1.00
	(moderately limited)		(limited)		(very limited)		(slightly limited)		(limited)	
	~percs slowly	0.25	~depth to bedrock	0.44	~slope	0.63			~slope	0.63
	(slightly limited)		(moderately limited)		(limited)				(limited)	
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.63	~depth to bedrock	1.00	~too clayey	0.87	~slope	0.63	~small stones	0.85
	(limited)		(very limited)		(limited)		(limited)		(limited)	
	~percs slowly	0.37	~seepage	0.18	~slope	0.63			~too clayey	0.74
	(moderately limited)		(slightly limited)		(limited)				(limited)	
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	0.35	~slope	0.91	~too clayey	0.30			~too clayey	0.15
	(moderately limited)		(limited)		(moderately limited)				(slightly limited)	
			~large stones	0.05					~large stones	0.08
			(slightly limited)						(slightly limited)	
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.37	~depth to bedrock	1.00	~too clayey	0.79	~slope	0.37	~small stones >35%	1.00
	(moderately limited)		(very limited)		(limited)		(moderately limited)		(very limited)	
					~slope	0.37			~too clayey	0.58
					(moderately limited)				(moderately limited)	
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
					~too clayey	0.77			~small stones >35%	1.00
					(limited)				(very limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones	1.00	~large stones	0.32					~large stones >35%	1.00
	(very limited)		(moderately limited)						(very limited)	
73133:										
Alred-----	Limited		Limited		Limited		Not limited		Limited	
	~percs slowly	0.94	~slope	0.91	~too clayey	0.71			~hard to pack	0.70
	(limited)		(limited)		(limited)				(limited)	
	~large stones	0.10	~seepage	0.50	~large stones	0.00			~too clayey	0.47
	(slightly limited)		(moderately limited)		(slightly limited)				(moderately limited)	
									~small stones	0.13
									(slightly limited)	
Ocie-----	Limited		Limited		Very limited		Limited		Very limited	
	~percs slowly	0.93	~slope	0.91	~depth to bedrock	1.00	~depth to bedrock	0.60	~too clayey	1.00
	(limited)		(limited)		(very limited)		(limited)		(very limited)	
	~depth to bedrock	0.79	~depth to bedrock	0.79	~too clayey	1.00			~hard to pack	0.70
	(limited)		(limited)		(very limited)				(limited)	
									~depth to bedrock	0.60
									(limited)	
73134:										
Alred-----	Limited		Very limited		Very limited		Limited		Very limited	
	~percs slowly	0.93	~slope	1.00	~too clayey	1.00	~slope	0.63	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~slope	0.63	~seepage	0.50	~slope	0.63			~small stones	1.00
	(limited)		(moderately limited)		(limited)				(limited)	
									~hard to pack	0.70
									(limited)	
Ocie-----	Limited		Very limited		Very limited		Limited		Limited	
	~percs slowly	0.93	~slope	1.00	~depth to bedrock	1.00	~slope	0.63	~too clayey	0.99
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~depth to bedrock	0.75	~depth to bedrock	0.75	~too clayey	1.00	~depth to bedrock	0.57	~small stones	0.98
	(limited)		(limited)		(very limited)		(moderately limited)		(limited)	
	~slope	0.63			~slope	0.63			~slope	0.63
	(limited)				(limited)				(limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73134:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.63	~depth to bedrock	1.00	~too clayey	1.00	~slope	0.63	~too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~slope	0.63			~small stones	0.97
	(slightly limited)		(moderately limited)		(limited)				(limited)	
74638:										
Waben-----	Slightly limited		Very limited		Limited		Limited		Limited	
	~large stones	0.00	~seepage	1.00	~seepage	0.79	~seepage	0.75	~small stones	0.93
	(slightly limited)		(very limited)		(limited)		(limited)		(limited)	
			~slope	0.91	~large stones	0.01			~seepage	0.50
			(limited)		(slightly limited)				(moderately limited)	
74639:										
Waben-----	Limited		Very limited		Limited		Limited		Very limited	
	~slope	0.63	~slope	1.00	~seepage	0.79	~seepage	0.75	~small stones >35%	1.00
	(limited)		(very limited)		(limited)		(limited)		(very limited)	
			~seepage	1.00	~slope	0.63	~slope	0.63	~slope	0.63
			(very limited)		(limited)		(limited)		(limited)	
					~too acid	0.30			~seepage	0.50
					(slightly limited)				(moderately limited)	
74640:										
Hootentown----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Not limited	
	~flooding (rare)	0.60	~seepage	0.50	~flooding (rare)	0.60	~flooding (rare)	0.60		
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)			
	~percs slowly	0.25								
	(slightly limited)									
75401:										
Horsecreek-----	Very limited		Very limited		Very limited		Very limited		Not limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00		
	(very limited)		(very limited)		(very limited)		(very limited)			
	~percs slowly	0.25	~seepage	0.50						
	(slightly limited)		(moderately limited)							
Jamesfin-----	Very limited		Very limited		Very limited		Very limited		Not limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00		
	(very limited)		(very limited)		(very limited)		(very limited)			
	~percs slowly	0.25	~seepage	0.50						
	(slightly limited)		(moderately limited)							

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75402:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50						
	(slightly limited)		(moderately limited)							
75403:										
Cedargap-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.07				
	(slightly limited)		(moderately limited)		(slightly limited)					
Woolly-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.60	~depth to bedrock	0.60	~depth to bedrock	1.00	~depth to bedrock	0.45	~depth to bedrock	0.45
	(limited)		(limited)		(very limited)		(moderately limited)		(moderately limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.30			~too clayey	0.15
	(slightly limited)		(moderately limited)		(slightly limited)				(slightly limited)	
75404:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.37			~too clayey	0.19
	(slightly limited)		(moderately limited)		(moderately limited)				(slightly limited)	
75405:										
Pinerun-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones >35%	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	0.25	~seepage	0.50	~too clayey	0.06				
	(slightly limited)		(moderately limited)		(slightly limited)					
Waben-----	Not limited		Very limited		Limited		Limited		Very limited	
			~seepage	1.00	~seepage	0.79	~seepage	0.75	~small stones >35%	1.00
			(very limited)		(limited)		(limited)		(very limited)	
			~slope	0.31	~too acid	0.06			~seepage	0.50
			(moderately limited)		(slightly limited)				(moderately limited)	
									~too acid	0.06
									(slightly limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Moderately limited		Very limited		Limited		Very limited		Very limited	
	~shrink-swell	0.33	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	0.75	~area reclaim	1.00	~too clayey	1.00
			(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~too clayey	1.00		
							(very limited)			
Clarksville----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.05	~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~large stones	0.04	~excess fines	1.00	~possible source	0.50	~area reclaim	1.00	~too clayey	0.66
	(slightly limited)		(bottom layer)		(bottom layer)		(very limited)		(limited)	
			~small stones	0.30	~small stones	0.30	~too clayey	0.25	~large stones	0.04
			(thickest layer)		(thickest layer)		(slightly limited)		(slightly limited)	
70031:										
Hailey-----	Limited		Very limited		Limited		Very limited		Very limited	
	~large stones	0.92	~excess fines	1.00	~small stones	0.99	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~slope	0.92	~excess fines	1.00	~small stones	0.99	~small stones	1.00	~large stones	0.92
	(limited)		(bottom layer)		(bottom layer)		(very limited)		(limited)	
			~small stones	0.99	~excess fines	0.75	~area reclaim	1.00	~cutbanks cave	0.29
			(thickest layer)		(bottom layer)		(very limited)		(slightly limited)	
Rueter-----	Limited		Very limited		Possible source		Very limited		Very limited	
	~slope	0.92	~excess fines	1.00	~possible source	0.17	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.17	~small stones	1.00	~cutbanks cave	1.00
			(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~area reclaim	1.00	~too clayey	0.80
							(very limited)		(limited)	
70032:										
Tonti-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~wetness	0.48	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.33	~dense layer	0.93	~wetness	1.00
			(bottom layer)		(bottom layer)		(limited)		(very limited)	
							~wetness	0.48	~dense layer	0.93
							(moderately limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~large stones	0.60
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(limited)	
	~large stones	0.60	~small stones	0.50	~small stones	0.50	~large stones >25%	1.00	~slope	0.37
	(limited)		(thickest layer)		(thickest layer)		(very limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	1.00	~excess fines	1.00	~possible source	0.42	~slope	1.00	~slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~small stones	1.00	~cutbanks cave	0.29
							(very limited)		(slightly limited)	
Blueye-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~hard bedrock <40"	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~low strength	1.00					~depth to bedrock	0.99	~too clayey	0.58
	(very limited)						(very limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Very limited		Limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	0.75	~too clayey	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~slope	0.33					~small stones	1.00	~hard bedrock <40"	1.00
	(moderately limited)						(very limited)		(very limited)	
Gobbler-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	0.78	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.73	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~too clayey	1.00
	(limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~depth to bedrock	0.57					~small stones	0.88	~depth to bedrock	0.75
	(moderately limited)						(limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	1.00					~depth to bedrock	0.89	~hard bedrock <40"	1.00
	(very limited)						(limited)		(very limited)	
Gobbler-----	Limited		Very limited		Possible source		Very limited		Very limited	
	~slope	0.92	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	0.54	~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.54					~area reclaim	1.00	~depth to bedrock	0.72
	(moderately limited)						(very limited)		(limited)	
70037:										
Sonsac-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~excess fines	1.00	~possible source	0.33	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.28					~too clayey	1.00	~hard bedrock <40"	1.00
	(slightly limited)						(very limited)		(very limited)	
Rueter-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~possible source	0.42	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.02							~too clayey	1.00
	(slightly limited)								(very limited)	
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~small stones	1.00	~small stones	1.00	~large stones	0.75
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(limited)	
	~large stones	0.75	~small stones	1.00	~excess fines	0.75	~large stones >25%	1.00	~cutbanks cave	0.29
	(limited)		(thickest layer)		(thickest layer)		(very limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.14	~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~large stones	0.00	~excess fines	1.00	~possible source	0.33	~area reclaim	1.00	~too clayey	1.00
	(slightly limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~slope	0.63	~slope	0.63
							(limited)		(limited)	
Goss-----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.30	~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.50	~area reclaim	1.00	~too clayey	0.96
			(bottom layer)		(thickest layer)		(very limited)		(limited)	
							~too clayey	1.00	~slope	0.63
							(very limited)		(limited)	
70051:										
Hailey-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~large stones	0.98	~excess fines	1.00	~small stones	1.00	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~slope	0.92	~excess fines	1.00	~small stones	1.00	~small stones	1.00	~large stones	0.98
	(limited)		(bottom layer)		(bottom layer)		(very limited)		(limited)	
			~small stones	1.00	~possible source	0.42	~area reclaim	1.00	~cutbanks cave	0.29
			(thickest layer)		(thickest layer)		(very limited)		(slightly limited)	
Rueter-----	Limited		Very limited		Possible source		Very limited		Very limited	
	~slope	0.92	~excess fines	1.00	~possible source	0.17	~slope	1.00	~slope	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.17	~small stones	1.00	~cutbanks cave	1.00
			(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~area reclaim	1.00	~too clayey	0.80
							(very limited)		(limited)	
71252:										
Britwater-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~area reclaim	0.92	~too clayey	0.16
			(bottom layer)		(bottom layer)		(limited)		(slightly limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73070:										
Sowcoon-----	Limited		Very limited		Very limited		Limited		Very limited	
	~wetness	0.86	~excess fines	1.00	~excess fines	1.00	~wetness	0.86	~ponded (wetness)	1.00
	(limited)		(thickest layer)		(thickest layer)		(limited)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~dense layer	0.26	~wetness	1.00
	(moderately limited)		(bottom layer)		(bottom layer)		(slightly limited)		(very limited)	
									~cutbanks cave	0.29
									(slightly limited)	
73113:										
Scholten-----	Moderately limited		Very limited		Limited		Very limited		Very limited	
	~wetness	0.48	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~wetness	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	0.99	~dense layer <20"	1.00	~cutbanks cave	1.00
			(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~wetness	0.48	~dense layer <20"	1.00
							(moderately limited)		(very limited)	
73114:										
Captina-----	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~dense layer	0.95	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(thickest layer)		(limited)		(very limited)	
	~wetness	0.71	~excess fines	1.00	~excess fines	1.00	~wetness	0.71	~wetness	1.00
	(limited)		(bottom layer)		(bottom layer)		(limited)		(very limited)	
							~too clayey	0.50	~dense layer	0.95
							(moderately limited)		(limited)	
73115:										
Horneybuck-----	Limited		Very limited		Limited		Very limited		Very limited	
	~wetness	0.76	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	0.75	~area reclaim	1.00	~wetness	1.00
			(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~wetness	0.76	~too clayey	0.18
							(limited)		(slightly limited)	
Tonti-----	Moderately limited		Very limited		Possible source		Limited		Very limited	
	~wetness	0.58	~excess fines	1.00	~excess fines	1.00	~dense layer	0.91	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(limited)		(very limited)	
			~excess fines	1.00	~possible source	0.42	~small stones	0.88	~wetness	1.00
			(bottom layer)		(bottom layer)		(limited)		(very limited)	
			~small stones	0.30	~small stones	0.30	~wetness	0.58	~dense layer	0.91
			(bottom layer)		(bottom layer)		(moderately limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73116:										
Pomme-----	Not limited		Very limited		Possible source		Very limited		Very limited	
			~excess fines	1.00	~possible source	0.46	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.15	~area reclaim	1.00	~too clayey	1.00
			(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~too clayey	0.77		
							(limited)			
73117:										
Clarksville----	Slightly limited		Very limited		Limited		Very limited		Very limited	
	~shrink-swell	0.07	~excess fines	1.00	~small stones	0.83	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~small stones	0.83	~area reclaim	1.00	~too clayey	0.64
			(bottom layer)		(bottom layer)		(very limited)		(limited)	
			~small stones	0.83	~possible source	0.33	~too acid	0.12		
			(thickest layer)		(bottom layer)		(slightly limited)			
Scholten-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~wetness	0.48	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~wetness	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.33	~dense layer	0.98	~cutbanks cave	1.00
			(bottom layer)		(thickest layer)		(limited)		(very limited)	
							~wetness	0.48	~too clayey	1.00
							(moderately limited)		(very limited)	
Hailey-----	Not limited		Very limited		Possible source		Very limited		Very limited	
			~excess fines	1.00	~possible source	0.42	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.17	~area reclaim	1.00		
			(bottom layer)		(bottom layer)		(very limited)			
73118:										
Rueter-----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.14	~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~large stones	0.00	~excess fines	1.00	~possible source	0.33	~area reclaim	1.00	~too clayey	1.00
	(slightly limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~slope	0.63	~slope	0.63
							(limited)		(limited)	
Goss-----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.30	~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.50	~area reclaim	1.00	~too clayey	0.96
			(bottom layer)		(thickest layer)		(very limited)		(limited)	
							~too clayey	1.00	~slope	0.63
							(very limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73119:										
Rueter-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~possible source	0.33	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.12	~excess fines	1.00	~possible source	0.17	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~area reclaim	1.00	~too clayey	0.84
							(very limited)		(limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~small stones	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~large stones	0.98	~excess fines	1.00	~small stones	1.00	~small stones	1.00	~large stones	0.98
	(limited)		(bottom layer)		(bottom layer)		(very limited)		(limited)	
			~small stones	1.00	~possible source	0.33	~area reclaim	1.00	~cutbanks cave	0.29
			(thickest layer)		(thickest layer)		(very limited)		(slightly limited)	
73120:										
Rueter-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
			(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~area reclaim	1.00	~too clayey	0.73
							(very limited)		(limited)	
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~low strength	1.00	~small stones	0.10	~small stones	0.10	~small stones	1.00	~cutbanks cave	0.29
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~wetness	0.58	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~wetness	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.50	~dense layer	0.93	~cutbanks cave	1.00
			(bottom layer)		(bottom layer)		(limited)		(very limited)	
							~wetness	0.58	~dense layer	0.93
							(moderately limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
73121:										
Tonti-----	Limited		Very limited		Very limited		Limited		Very limited	
	~low strength	0.78	~excess fines	1.00	~excess fines	1.00	~dense layer	0.93	~cutbanks cave	1.00
	(limited)		(thickest layer)		(thickest layer)		(limited)		(very limited)	
	~wetness	0.64	~excess fines	1.00	~excess fines	1.00	~wetness	0.64	~wetness	1.00
	(limited)		(bottom layer)		(bottom layer)		(limited)		(very limited)	
							~small stones	0.12	~dense layer	0.93
							(slightly limited)		(limited)	
73122:										
Gasconade-----	Very limited		Very limited		Limited		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	0.75	~slope	1.00	~slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~large stones	0.15	~small stones	0.10	~small stones	0.10	~small stones	1.00	~cutbanks cave	0.29
	(slightly limited)		(thickest layer)		(thickest layer)		(very limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.66	~excess fines	1.00	~possible source	0.50	~large stones	0.30	~too clayey	1.00
	(limited)		(bottom layer)		(thickest layer)		(slightly limited)		(very limited)	
							~too acid	0.12	~slope	0.04
							(slightly limited)		(slightly limited)	
Ocie-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.53	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	0.39	~excess fines	1.00	~possible source	0.25	~too clayey	0.55	~too clayey	0.99
	(moderately limited)		(bottom layer)		(thickest layer)		(moderately limited)		(very limited)	
							~area reclaim	0.08	~depth to bedrock	0.54
							(slightly limited)		(moderately limited)	
73124:										
Alred-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~possible source	0.33	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.57					~area reclaim	0.92	~too clayey	0.62
	(moderately limited)						(limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73124:										
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	0.92	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~cutbanks cave	1.00
	(limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~depth to bedrock	0.60					~depth to bedrock	0.22	~depth to bedrock	0.79
	(limited)						(slightly limited)		(limited)	
73125:										
Knobby-----	Very limited		Very limited		Limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~large stones	0.15	~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	0.29
	(slightly limited)		(bottom layer)		(thickest layer)		(very limited)		(slightly limited)	
			~small stones	0.10	~small stones	0.10	~large stones	0.99	~large stones	0.15
			(thickest layer)		(thickest layer)		(limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~large stones	0.04					~small stones	1.00	~cutbanks cave	0.29
	(slightly limited)						(very limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	0.48	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.33	~excess fines	1.00	~possible source	0.42	~too clayey	1.00	~too clayey	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
							~area reclaim	0.68	~depth to bedrock	0.64
							(limited)		(limited)	
Sonsac-----	Very limited		Very limited		Limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	0.75	~depth to bedrock	0.72	~hard bedrock <40"	1.00
	(very limited)		(bottom layer)		(thickest layer)		(limited)		(very limited)	
							~too acid	0.06	~too clayey	0.30
							(slightly limited)		(moderately limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73128:										
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.47	~excess fines	1.00	~excess fines	1.00	~area reclaim	0.92	~too clayey	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(limited)		(very limited)	
	~depth to bedrock	0.30	~small stones	0.10	~small stones	0.10	~slope	0.63	~slope	0.63
	(slightly limited)		(thickest layer)		(thickest layer)		(limited)		(limited)	
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~low strength	1.00					~small stones	1.00	~too clayey	0.74
	(very limited)						(very limited)		(limited)	
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~large stones	0.35
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(moderately limited)	
	~shrink-swell	0.45	~small stones	1.00	~small stones	1.00	~too clayey	0.99	~cutbanks cave	0.29
	(moderately limited)		(thickest layer)		(thickest layer)		(limited)		(slightly limited)	
73130:										
Gasconade-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~possible source	0.50	~small stones	1.00	~too clayey	0.58
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)		(moderately limited)	
							~too clayey	1.00	~slope	0.37
							(very limited)		(moderately limited)	
73131:										
Gasconade-----	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~possible source	0.33	~slope	1.00	~slope	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~slope	0.25					~small stones	1.00	~too clayey	0.55
	(slightly limited)						(very limited)		(moderately limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~low strength	1.00	~small stones	0.99	~small stones	0.99	~large stones >25%	1.00	~large stones	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
73133:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.29	~excess fines	1.00	~excess fines	1.00	~too sandy	0.57	~too clayey	0.47
	(slightly limited)		(bottom layer)		(thickest layer)		(moderately limited)		(moderately limited)	
	~large stones	0.10					~too clayey	0.06	~large stones	0.10
	(slightly limited)						(slightly limited)		(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.76	~excess fines	1.00	~excess fines	1.00	~too clayey	0.63	~too clayey	1.00
	(limited)		(bottom layer)		(thickest layer)		(limited)		(very limited)	
	~depth to bedrock	0.60					~depth to bedrock	0.22	~depth to bedrock	0.79
	(limited)						(slightly limited)		(limited)	
73134:										
Alred-----	Very limited		Very limited		Limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.62	~excess fines	1.00	~excess fines	0.99	~slope	0.63	~too clayey	1.00
	(limited)		(bottom layer)		(thickest layer)		(limited)		(very limited)	
							~too clayey	0.13	~slope	0.63
							(slightly limited)		(limited)	
Ocie-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.57	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	0.57	~excess fines	1.00	~possible source	0.25	~slope	0.63	~too clayey	0.99
	(moderately limited)		(bottom layer)		(thickest layer)		(limited)		(very limited)	
							~too clayey	0.55	~depth to bedrock	0.75
							(moderately limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
73134:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~cutbanks cave	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~hard bedrock <40"	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	0.33					~large surface stones	0.79	~too clayey	1.00
	(moderately limited)						(limited)		(very limited)	
74638:										
Waben-----	Slightly limited		Very limited		Limited		Very limited		Very limited	
	~large stones	0.00	~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	0.99	~area reclaim	1.00	~large stones	0.00
			(bottom layer)		(thickest layer)		(very limited)		(slightly limited)	
							~too clayey	0.01		
							(slightly limited)			
74639:										
Waben-----	Not limited		Very limited		Possible source		Very limited		Very limited	
			~excess fines	1.00	~possible source	0.42	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.33	~area reclaim	1.00	~slope	0.63
			(bottom layer)		(thickest layer)		(very limited)		(limited)	
							~slope	0.63		
							(limited)			
74640:										
Hootentown----	Slightly limited		Very limited		Very limited		Not limited		Slightly limited	
	~low strength	0.22	~excess fines	1.00	~excess fines	1.00			~cutbanks cave	0.29
	(slightly limited)		(thickest layer)		(bottom layer)				(slightly limited)	
			~excess fines	1.00	~excess fines	1.00				
			(bottom layer)		(thickest layer)					
75401:										
Horsecreek-----	Very limited		Very limited		Very limited		Not limited		Moderately limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00			~flooding	0.60
	(very limited)		(thickest layer)		(bottom layer)				(moderately limited)	
			~excess fines	1.00	~excess fines	1.00			~cutbanks cave	0.29
			(bottom layer)		(thickest layer)				(slightly limited)	
Jamesfin-----	Limited		Very limited		Very limited		Not limited		Moderately limited	
	~low strength	0.78	~excess fines	1.00	~excess fines	1.00			~flooding	0.60
	(limited)		(thickest layer)		(bottom layer)				(moderately limited)	
			~excess fines	1.00	~excess fines	1.00			~cutbanks cave	0.29
			(bottom layer)		(thickest layer)				(slightly limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
75402:										
Pinerun-----	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.08	~excess fines	1.00	~excess fines	0.75	~small stones	1.00	~cutbanks cave	1.00
	(slightly limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.42	~area reclaim	1.00	~flooding	0.60
			(bottom layer)		(bottom layer)		(very limited)		(moderately limited)	
75403:										
Cedargap-----	Not limited		Very limited		Possible source		Very limited		Very limited	
			~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.25	~area reclaim	1.00	~flooding	0.60
			(bottom layer)		(bottom layer)		(very limited)		(moderately limited)	
							~too clayey	0.41		
							(moderately limited)			
Woolly-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	0.45	~excess fines	1.00	~excess fines	1.00	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.42	~area reclaim	1.00	~depth to bedrock	0.60
			(bottom layer)		(thickest layer)		(very limited)		(limited)	
							~too clayey	0.77	~flooding	0.60
							(limited)		(moderately limited)	
75404:										
Pinerun-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~possible source	0.50	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.33	~area reclaim	1.00	~flooding	0.60
			(bottom layer)		(thickest layer)		(very limited)		(moderately limited)	
							~too clayey	0.56	~too clayey	0.19
							(moderately limited)		(slightly limited)	
75405:										
Pinerun-----	Moderately limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell	0.43	~excess fines	1.00	~excess fines	0.75	~small stones	1.00	~cutbanks cave	1.00
	(moderately limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			~excess fines	1.00	~possible source	0.33	~area reclaim	1.00	~flooding	0.60
			(bottom layer)		(bottom layer)		(very limited)		(moderately limited)	
							~large stones	0.01		
							(slightly limited)			

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
75405:										
Waben-----	Not limited		Very limited		Limited		Very limited		Very limited	
			~excess fines	1.00	~excess fines	0.99	~small stones	1.00	~cutbanks cave	1.00
			(thickest layer)		(bottom layer)		(very limited)		(very limited)	
			~excess fines	1.00	~excess fines	0.99	~area reclaim	1.00		
			(bottom layer)		(thickest layer)		(very limited)			
							~too acid	0.06		
							(slightly limited)			
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70030:										
Noark-----	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage	0.50	~slope	0.98	~slope	0.98	~slope	0.30	~slope	0.30
	(moderately limited)		(limited)		(limited)		(moderately limited)		(moderately limited)	
	~slope	0.30			~droughty	0.30			~droughty	0.30
	(moderately limited)				(slightly limited)				(slightly limited)	
Clarksville----	Very limited		Very limited		Limited		Very limited		Very limited	
	~seepage	1.00	~large stones	1.00	~slope	0.98	~large stones	1.00	~large stones	1.00
	(very limited)		(very limited)		(limited)		(very limited)		(very limited)	
	~slope	0.30	~slope	0.98	~droughty	0.16	~slope	0.30	~slope	0.30
	(moderately limited)		(limited)		(slightly limited)		(moderately limited)		(moderately limited)	
					~large stones	0.04			~droughty	0.16
					(slightly limited)				(slightly limited)	
70031:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large stones	1.00	~droughty	1.00	~large stones	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
					~large stones	0.92			~droughty	1.00
					(limited)				(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00			~droughty	0.59			~droughty	0.59
	(very limited)				(moderately limited)				(moderately limited)	
70032:										
Tonti-----	Moderately limited		Not limited		Not limited		Moderately limited		Limited	
	~seepage	0.50					~wetness	0.44	~rooting depth	0.80
	(moderately limited)						(moderately limited)		(limited)	
									~wetness	0.44
									(moderately limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in.   (very limited)	1.00	~slope   (very limited)	1.00	~droughty   (very limited)	1.00	~depth to bedrock   (very limited)	1.00	~large stones   (very limited)	1.00
	~slope   (limited)	0.89	~bedrock <20 in.   (very limited)	1.00	~slope   (very limited)	1.00	~large stones   (very limited)	1.00	~droughty   (very limited)	1.00
			~large stones   (very limited)	1.00	~bedrock <20 in.   (very limited)	1.00	~slope   (limited)	0.89	~bedrock <20 in.   (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~droughty   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00
	~bedrock <20 in.   (very limited)	1.00	~bedrock <20 in.   (very limited)	1.00	~slope   (very limited)	1.00	~depth to bedrock   (very limited)	1.00	~droughty   (very limited)	1.00
					~bedrock <20 in.   (very limited)	1.00			~bedrock <20 in.   (very limited)	1.00
Blueye-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00
	~depth to bedrock   (limited)	0.85	~percs slowly   (moderately limited)	0.39	~slow intake   (moderately limited)	0.60	~depth to bedrock   (very limited)	1.00	~depth to bedrock   (limited)	0.85
			~depth to bedrock   (slightly limited)	0.30	~percs slowly   (moderately limited)	0.39			~droughty   (moderately limited)	0.31
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00
	~depth to bedrock   (limited)	0.74	~depth to bedrock   (slightly limited)	0.06	~depth to bedrock   (slightly limited)	0.06	~depth to bedrock   (very limited)	1.00	~depth to bedrock   (limited)	0.74
	~seepage   (slightly limited)	0.18			~droughty   (slightly limited)	0.03	~large stones   (moderately limited)	0.57	~large stones   (moderately limited)	0.57
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00	~slope   (very limited)	1.00
	~depth to bedrock   (limited)	0.63	~large stones   (limited)	0.75	~droughty   (slightly limited)	0.29	~large stones   (limited)	0.95	~large stones   (limited)	0.95
	~seepage   (slightly limited)	0.18					~depth to bedrock   (moderately limited)	0.57	~depth to bedrock   (limited)	0.63

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.83	~depth to bedrock	0.24	~droughty	0.58	~depth to bedrock	1.00	~depth to bedrock	0.83
	(limited)		(slightly limited)		(moderately limited)		(very limited)		(limited)	
	~seepage	0.50			~depth to bedrock	0.24			~droughty	0.58
	(moderately limited)				(slightly limited)				(moderately limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.92	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79
	(limited)		(limited)		(limited)		(limited)		(limited)	
	~depth to bedrock	0.62			~droughty	0.49	~depth to bedrock	0.54	~depth to bedrock	0.62
	(limited)				(moderately limited)		(moderately limited)		(limited)	
70037:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.77	~depth to bedrock	0.13	~droughty	0.97	~depth to bedrock	1.00	~droughty	0.97
	(limited)		(slightly limited)		(limited)		(very limited)		(limited)	
	~seepage	0.18			~depth to bedrock	0.13			~depth to bedrock	0.77
	(slightly limited)				(slightly limited)				(limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00			~droughty	0.56			~droughty	0.56
	(very limited)				(moderately limited)				(moderately limited)	
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~droughty	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.30	~large stones	1.00	~bedrock <20 in.	1.00	~large stones	1.00	~bedrock <20 in.	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~slope	0.98	~slope	0.98	~too sandy	1.00	~large stones	1.00
			(limited)		(limited)		(very limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~large stones	1.00	~large stones	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.50	~large stones	0.75	~droughty	0.56	~slope	0.99	~slope	0.99
	(moderately limited)		(limited)		(moderately limited)		(limited)		(limited)	
					~large stones	0.00			~droughty	0.56
					(slightly limited)				(moderately limited)	
Goss-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50			~droughty	0.43			~droughty	0.43
	(moderately limited)				(moderately limited)				(moderately limited)	
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large stones	1.00	~droughty	1.00	~large stones	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
					~large stones	0.98			~droughty	1.00
					(limited)				(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00			~droughty	0.59			~droughty	0.59
	(very limited)				(moderately limited)				(moderately limited)	
71252:										
Britwater-----	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage	0.50	~slope	0.98	~slope	0.98	~slope	0.30	~slope	0.30
	(moderately limited)		(limited)		(limited)		(moderately limited)		(moderately limited)	
	~slope	0.30								
	(moderately limited)									
73070:										
Sowcoon-----	Moderately limited		Very limited		Very limited		Very limited		Moderately limited	
	~seepage	0.50	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~wetness	0.60
	(moderately limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
			~percs slowly	0.17	~percs slowly	0.17	~wetness	0.60		
			(slightly limited)		(slightly limited)		(moderately limited)			

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73113:										
Scholten-----	Moderately limited		Limited		Limited		Moderately limited		Limited	
	~seepage	0.50	~slope	0.98	~slope	0.98	~wetness	0.44	~droughty	0.90
	(moderately limited)		(limited)		(limited)		(moderately limited)		(limited)	
	~slope	0.30	~large stones	0.30	~droughty	0.90	~slope	0.30	~rooting depth	0.80
	(moderately limited)		(slightly limited)		(limited)		(moderately limited)		(limited)	
							~large stones	0.01	~wetness	0.44
							(slightly limited)		(moderately limited)	
73114:										
Captina-----	Limited		Not limited		Not limited		Moderately limited		Limited	
	~seepage	0.68					~wetness	0.53	~rooting depth	0.80
	(limited)						(moderately limited)		(limited)	
									~wetness	0.53
									(moderately limited)	
73115:										
Horneybuck-----	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage	0.50	~slope	0.78	~slope	0.78	~wetness	0.55	~wetness	0.55
	(moderately limited)		(limited)		(limited)		(moderately limited)		(moderately limited)	
	~slope	0.20	~percs slowly	0.13	~percs slowly	0.13	~slope	0.20	~slope	0.20
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Tonti-----	Moderately limited		Limited		Limited		Moderately limited		Limited	
	~seepage	0.50	~slope	0.78	~slope	0.78	~wetness	0.48	~rooting depth	0.80
	(moderately limited)		(limited)		(limited)		(moderately limited)		(limited)	
	~slope	0.20					~slope	0.20	~wetness	0.48
	(slightly limited)						(slightly limited)		(moderately limited)	
									~slope	0.20
									(slightly limited)	
73116:										
Pomme-----	Moderately limited		Moderately limited		Moderately limited		Slightly limited		Slightly limited	
	~seepage	0.50	~slope	0.40	~slope	0.40	~slope	0.10	~slope	0.10
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~slope	0.10								
	(slightly limited)									
73117:										
Clarksville----	Very limited		Very limited		Very limited		Moderately limited		Limited	
	~seepage	1.00	~slope	1.00	~slope	1.00	~slope	0.60	~droughty	0.66
	(very limited)		(very limited)		(very limited)		(moderately limited)		(limited)	
	~slope	0.60	~large stones	1.00	~droughty	0.66	~large stones	0.21	~slope	0.60
	(moderately limited)		(very limited)		(limited)		(slightly limited)		(moderately limited)	
									~large stones	0.21
									(slightly limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73117:										
Scholten-----	Moderately limited		Very limited		Very limited		Moderately limited		Limited	
	~slope	0.60	~slope	1.00	~slope	1.00	~slope	0.60	~droughty	0.89
	(moderately limited)		(very limited)		(very limited)		(moderately limited)		(limited)	
	~seepage	0.50			~droughty	0.89	~wetness	0.44	~rooting depth	0.80
	(moderately limited)				(limited)		(moderately limited)		(limited)	
									~slope	0.60
									(moderately limited)	
Hailey-----	Very limited		Very limited		Very limited		Moderately limited		Limited	
	~seepage	1.00	~slope	1.00	~slope	1.00	~slope	0.60	~droughty	0.82
	(very limited)		(very limited)		(very limited)		(moderately limited)		(limited)	
	~slope	0.60			~droughty	0.82			~slope	0.60
	(moderately limited)				(limited)				(moderately limited)	
73118:										
Rueter-----	Limited		Very limited		Very limited		Very limited		Very limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~large stones	1.00	~large stones	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.50	~large stones	0.75	~droughty	0.56	~slope	0.99	~slope	0.99
	(moderately limited)		(limited)		(moderately limited)		(limited)		(limited)	
					~large stones	0.00			~droughty	0.56
					(slightly limited)				(moderately limited)	
Goss-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50			~droughty	0.43			~droughty	0.43
	(moderately limited)				(moderately limited)				(moderately limited)	
73119:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.50			~droughty	0.54			~droughty	0.54
	(moderately limited)				(moderately limited)				(moderately limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large stones	1.00	~droughty	1.00	~large stones	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
					~large stones	0.98			~droughty	1.00
					(limited)				(very limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73120:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00								
	(very limited)									
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~droughty	1.00	~slope	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~large stones	0.99	~bedrock <20 in.	1.00	~large stones	1.00	~droughty	1.00
			(limited)		(very limited)		(very limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73121:										
Scholten-----	Moderately limited		Limited		Limited		Moderately limited		Limited	
	~seepage	0.50	~slope	0.78	~slope	0.78	~wetness	0.48	~rooting depth	0.80
	(moderately limited)		(limited)		(limited)		(moderately limited)		(limited)	
	~slope	0.20					~slope	0.20	~wetness	0.48
	(slightly limited)						(slightly limited)		(moderately limited)	
									~slope	0.20
									(slightly limited)	
Tonti-----	Moderately limited		Limited		Limited		Moderately limited		Limited	
	~seepage	0.50	~slope	0.78	~slope	0.78	~wetness	0.50	~rooting depth	0.80
	(moderately limited)		(limited)		(limited)		(moderately limited)		(limited)	
	~slope	0.20					~slope	0.20	~wetness	0.50
	(slightly limited)						(slightly limited)		(moderately limited)	
									~slope	0.20
									(slightly limited)	
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~droughty	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~large stones	0.99	~bedrock <20 in.	1.00	~large stones	1.00	~bedrock <20 in.	1.00
			(limited)		(very limited)		(very limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73123:										
Mano-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.70	~slope	1.00	~slope	1.00	~slope	0.70	~slope	0.70
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50	~percs slowly	0.39	~percs slowly	0.39	~large stones	0.08	~large stones	0.08
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
					~droughty	0.00			~droughty	0.00
					(slightly limited)				(slightly limited)	
Ocie-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.70	~slope	1.00	~slope	1.00	~slope	0.70	~slope	0.70
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~depth to bedrock	0.50	~percs slowly	0.39	~percs slowly	0.39	~depth to bedrock	0.39	~depth to bedrock	0.50
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
73124:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.50	~percs slowly	0.40	~percs slowly	0.40	~large surface stones	0.13	~large surface stones	0.13
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
			~large surface stones	0.13	~large surface stones	0.13			~droughty	0.11
			(slightly limited)		(slightly limited)				(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.64	~percs slowly	0.39	~percs slowly	0.39	~depth to bedrock	0.60	~depth to bedrock	0.64
	(limited)		(moderately limited)		(moderately limited)		(limited)		(limited)	
	~seepage	0.50	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13
	(moderately limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~droughty	1.00	~depth to bedrock	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.70	~slope	1.00	~bedrock <20 in.	1.00	~large stones	1.00	~droughty	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~large stones	0.99	~slope	1.00	~slope	0.70	~bedrock <20 in.	1.00
			(limited)		(very limited)		(limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~droughty	1.00	~slope	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~large stones	0.75	~bedrock <20 in.	1.00	~large stones	1.00	~droughty	1.00
			(limited)		(very limited)		(very limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~depth to bedrock	0.58	~slope	0.98	~slope	0.98	~depth to bedrock	0.48	~depth to bedrock	0.58
	(moderately limited)		(limited)		(limited)		(moderately limited)		(moderately limited)	
	~seepage	0.32			~droughty	0.03	~slope	0.30	~slope	0.30
	(moderately limited)				(slightly limited)		(moderately limited)		(moderately limited)	
	~slope	0.30					~large stones	0.19	~large stones	0.19
	(moderately limited)						(slightly limited)		(slightly limited)	
Sonsac-----	Limited		Very limited		Very limited		Very limited		Limited	
	~depth to bedrock	0.78	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	0.78
	(limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~slope	0.45	~large stones	0.30	~depth to bedrock	0.15	~slope	0.45	~slope	0.45
	(moderately limited)		(slightly limited)		(slightly limited)		(moderately limited)		(moderately limited)	
	~seepage	0.32	~depth to bedrock	0.15	~droughty	0.04	~large stones	0.03	~droughty	0.04
	(moderately limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
73128:										
Gobbler-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.92	~large stones	0.99	~droughty	0.50	~large stones	0.81	~large stones	0.81
	(limited)		(limited)		(moderately limited)		(limited)		(limited)	
	~depth to bedrock	0.42	~large surface stones	0.13	~large surface stones	0.13	~depth to bedrock	0.30	~droughty	0.50
	(moderately limited)		(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)	
Sonsac-----	Limited		Very limited		Very limited		Very limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~slope	0.99
	(limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~depth to bedrock	0.89	~depth to bedrock	0.46	~droughty	0.61	~slope	0.99	~depth to bedrock	0.89
	(limited)		(moderately limited)		(limited)		(limited)		(limited)	
	~seepage	0.18			~depth to bedrock	0.46			~droughty	0.61
	(slightly limited)				(moderately limited)				(limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~droughty	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.30	~large stones	1.00	~bedrock <20 in.	1.00	~large stones	1.00	~bedrock <20 in.	1.00
	(moderately limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~slope	0.98	~slope	0.98	~slope	0.30	~large stones	1.00
			(limited)		(limited)		(moderately limited)		(very limited)	
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in.	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	0.89	~bedrock <20 in.	1.00	~droughty	1.00	~slope	0.89	~bedrock <20 in.	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
			~percs slowly	0.13	~bedrock <20 in.	1.00			~slope	0.89
			(slightly limited)		(very limited)				(limited)	
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~droughty	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~percs slowly	0.13	~bedrock <20 in.	1.00			~bedrock <20 in.	1.00
			(slightly limited)		(very limited)				(very limited)	
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~droughty	1.00	~slope	1.00	~large stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
			~large stones	1.00	~bedrock <20 in.	1.00	~large stones	1.00	~droughty	1.00
			(very limited)		(very limited)		(very limited)		(very limited)	
73133:										
Alred-----	Moderately limited		Limited		Limited		Very limited		Very limited	
	~seepage	0.50	~slope	0.98	~slope	0.98	~large stones	1.00	~large stones	1.00
	(moderately limited)		(limited)		(limited)		(very limited)		(very limited)	
	~slope	0.30	~percs slowly	0.40	~percs slowly	0.40	~slope	0.30	~slope	0.30
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~droughty	0.11			~droughty	0.11
					(slightly limited)				(slightly limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73133:										
Ocie-----	Limited		Limited		Limited		Limited		Limited	
	~depth to bedrock	0.64	~slope	0.98	~slope	0.98	~depth to bedrock	0.60	~depth to bedrock	0.64
	(limited)		(limited)		(limited)		(limited)		(limited)	
	~slope	0.30	~percs slowly	0.39	~percs slowly	0.39	~slope	0.30	~slope	0.30
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
73134:										
Alred-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50	~percs slowly	0.39	~percs slowly	0.39	~large surface stones	0.13	~large surface stones	0.13
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
			~large stones	0.30	~large surface stones	0.13			~droughty	0.02
			(slightly limited)		(slightly limited)				(slightly limited)	
Ocie-----	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~depth to bedrock	0.63	~percs slowly	0.39	~percs slowly	0.39	~depth to bedrock	0.57	~depth to bedrock	0.63
	(limited)		(moderately limited)		(moderately limited)		(moderately limited)		(limited)	
			~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13
			(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Sonsac-----	Limited		Very limited		Very limited		Very limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~depth to bedrock	1.00	~slope	0.99
	(limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~depth to bedrock	0.80	~large surface stones	0.79	~large surface stones	0.79	~slope	0.99	~depth to bedrock	0.80
	(limited)		(limited)		(limited)		(limited)		(limited)	
	~seepage	0.50	~depth to bedrock	0.18	~depth to bedrock	0.18	~large surface stones	0.79	~large surface stones	0.79
	(moderately limited)		(slightly limited)		(slightly limited)		(limited)		(limited)	
74638:										
Waben-----	Very limited		Limited		Limited		Very limited		Very limited	
	~seepage	1.00	~slope	0.98	~slope	0.98	~large stones	1.00	~large stones	1.00
	(very limited)		(limited)		(limited)		(very limited)		(very limited)	
	~slope	0.30	~large stones	0.75	~large stones	0.00	~slope	0.30	~slope	0.30
	(moderately limited)		(limited)		(slightly limited)		(moderately limited)		(moderately limited)	
74639:										
Waben-----	Very limited		Very limited		Very limited		Limited		Limited	
	~seepage	1.00	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	~slope	0.99			~droughty	0.04			~droughty	0.04
	(limited)				(slightly limited)				(slightly limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
74640:										
Hootentown-----	Moderately limited		Not limited		Not limited		Not limited		Not limited	
	~seepage	0.50								
	(moderately limited)									
75401:										
Horsecreek-----	Moderately limited		Moderately limited		Moderately limited		Not limited		Not limited	
	~seepage	0.50	~flooding	0.60	~flooding	0.60				
	(moderately limited)		(moderately limited)		(moderately limited)					
Jamesfin-----	Moderately limited		Moderately limited		Moderately limited		Not limited		Not limited	
	~seepage	0.50	~flooding	0.60	~flooding	0.60				
	(moderately limited)		(moderately limited)		(moderately limited)					
75402:										
Pinerun-----	Moderately limited		Moderately limited		Moderately limited		Not limited		Not limited	
	~seepage	0.50	~flooding	0.60	~flooding	0.60				
	(moderately limited)		(moderately limited)		(moderately limited)					
75403:										
Cedargap-----	Moderately limited		Moderately limited		Limited		Not limited		Limited	
	~seepage	0.50	~flooding	0.60	~droughty	0.97			~droughty	0.97
	(moderately limited)		(moderately limited)		(limited)				(limited)	
					~flooding	0.60				
					(moderately limited)					
Woolly-----	Moderately limited		Moderately limited		Limited		Moderately limited		Limited	
	~depth to bedrock	0.55	~flooding	0.60	~droughty	0.90	~depth to bedrock	0.45	~droughty	0.90
	(moderately limited)		(moderately limited)		(limited)		(moderately limited)		(limited)	
	~seepage	0.50	~slope	0.10	~flooding	0.60			~depth to bedrock	0.55
	(moderately limited)		(slightly limited)		(moderately limited)				(moderately limited)	
					~slow intake	0.60				
					(moderately limited)					
75404:										
Pinerun-----	Moderately limited		Moderately limited		Limited		Not limited		Limited	
	~seepage	0.50	~flooding	0.60	~droughty	0.63			~droughty	0.63
	(moderately limited)		(moderately limited)		(limited)				(limited)	
					~flooding	0.60				
					(moderately limited)					
75405:										
Pinerun-----	Moderately limited		Moderately limited		Moderately limited		Slightly limited		Slightly limited	
	~seepage	0.50	~flooding	0.60	~flooding	0.60	~large stones	0.21	~large stones	0.21
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
			~large stones	0.30	~droughty	0.00			~droughty	0.00
			(slightly limited)		(slightly limited)				(slightly limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>	<u>Limitation</u>	<u>Value</u>
75405:										
Waben-----	Very limited		Moderately limited		Moderately limited		Slightly limited		Slightly limited	
	~seepage	1.00	~slope	0.40	~slope	0.40	~slope	0.10	~slope	0.10
	(very limited)		(moderately limited)		(moderately limited)		(slightly limited)		(slightly limited)	
	~slope	0.10								
	(slightly limited)									
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	



Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70033:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	0.89	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~slope	0.68	~slope	0.68	~slope	0.89	~large stones	0.60	~too cobbly	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70034:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~bedrock <20 in.	1.00			~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)				(very limited)	
Blueye-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.31	~droughty	0.31	~droughty	0.31	~depth to bedrock	1.00	~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(very limited)		(very limited)	
	~depth to bedrock	0.30	~depth to bedrock	0.30	~depth to bedrock	0.30			~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)				(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
70035:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.06	~depth to bedrock	0.06	~depth to bedrock	0.06	~depth to bedrock	1.00	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(very limited)		(very limited)	
	~droughty	0.03	~droughty	0.03	~droughty	0.03	~large stones	0.00	~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.29	~droughty	0.29	~droughty	0.29	~depth to bedrock	0.57	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)		(very limited)	
	~too acid	0.06	~too acid	0.06	~too acid	0.06	~too acid	0.06	~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70036:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.58	~droughty	0.58	~droughty	0.58	~depth to bedrock	1.00	~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(very limited)		(very limited)	
	~depth to bedrock	0.24	~depth to bedrock	0.24	~depth to bedrock	0.24			~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)				(very limited)	
Gobbler-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79	~depth to bedrock	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.49	~droughty	0.49	~droughty	0.49	~depth to bedrock	0.54	~percs slowly	0.99
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
70037:										
Sonsac-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.97	~droughty	0.97	~droughty	0.97	~depth to bedrock	1.00	~slope	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
	~depth to bedrock	0.13	~depth to bedrock	0.13	~depth to bedrock	0.13			~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)				(very limited)	
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.56	~droughty	0.56	~droughty	0.56	~too acid	0.18	~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(moderately limited)	
	~too acid	0.18	~too acid	0.18	~too acid	0.18				
	(slightly limited)		(slightly limited)		(slightly limited)					
70038:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones >35%	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large stones >35%	1.00	~large stones >35%	1.00	~large stones >35%	1.00	~large surface stones	0.79	~too cobbly	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
70050:										
Rueter-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.56	~droughty	0.56	~droughty	0.56			~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)				(very limited)	
									~too cobbly	0.04
									(slightly limited)	
Goss-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.43	~droughty	0.43	~droughty	0.43			~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)				(moderately limited)	
70051:										
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~droughty	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	1.00	~slope	1.00	~droughty	1.00	~poor filter	1.00	~too cobbly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~poor filter	1.00	~poor filter	1.00	~poor filter	1.00	~large stones	0.30		
	(very limited)		(very limited)		(very limited)		(moderately limited)			
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.59	~droughty	0.59	~droughty	0.59			~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)				(moderately limited)	
71252:										
Britwater-----	Slightly limited		Slightly limited		Moderately limited		Moderately limited		Very limited	
	~too acid	0.24	~too acid	0.24	~slope	0.30	~slope	0.30	~percs slowly	1.00
	(slightly limited)		(slightly limited)		(moderately limited)		(moderately limited)		(very limited)	
					~too acid	0.24	~too acid	0.24	~slope	0.91
					(slightly limited)		(slightly limited)		(limited)	
73070:										
Sowcoon-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~ponded (wetness)	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~wetness	0.60	~wetness	0.60	~wetness	0.60	~wetness	0.60	~ponded (wetness)	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
	~too acid	0.06	~too acid	0.06	~too acid	0.06	~too acid	0.06	~wetness	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73113:										
Scholten-----	Limited		Limited		Limited		Moderately limited		Very limited	
	~droughty	0.90	~droughty	0.90	~droughty	0.90	~wetness	0.44	~percs slowly	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
	~wetness	0.44	~wetness	0.44	~wetness	0.44	~slope	0.30	~wetness	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
					~slope	0.30			~slope	0.91
					(moderately limited)				(limited)	
73114:										
Captina-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness	0.53	~wetness	0.53	~wetness	0.53	~wetness	0.53	~percs slowly	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
									~wetness	1.00
									(very limited)	
									~too acid	0.07
									(slightly limited)	
73115:										
Horneybuck-----	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~wetness	0.55	~wetness	0.55	~wetness	0.55	~wetness	0.55	~wetness	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
	~too acid	0.12	~too acid	0.12	~slope	0.20	~slope	0.20	~slope	0.66
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(limited)	
Tonti-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness	0.48	~wetness	0.48	~wetness	0.48	~wetness	0.48	~percs slowly	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
					~slope	0.20	~slope	0.20	~wetness	1.00
					(slightly limited)		(slightly limited)		(very limited)	
									~slope	0.66
									(limited)	
73116:										
Pomme-----	Not limited		Not limited		Slightly limited		Slightly limited		Very limited	
					~slope	0.10	~slope	0.10	~percs slowly	1.00
					(slightly limited)		(slightly limited)		(very limited)	
									~slope	0.31
									(moderately limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73117:										
Clarksville----	Limited		Limited		Limited		Moderately limited		Very limited	
	~droughty	0.66	~droughty	0.66	~droughty	0.66	~slope	0.60	~slope	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
	~slope	0.30	~slope	0.30	~slope	0.60			~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)				(moderately limited)	
									~too cobbly	0.18
									(slightly limited)	
Scholten-----	Limited		Limited		Limited		Moderately limited		Very limited	
	~droughty	0.89	~droughty	0.89	~droughty	0.89	~slope	0.60	~wetness	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
	~wetness	0.44	~wetness	0.44	~slope	0.60	~wetness	0.44	~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.30	~slope	0.30	~wetness	0.44	~too acid	0.06	~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(moderately limited)	
Hailey-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~poor filter	1.00	~poor filter	1.00	~poor filter	1.00	~poor filter	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.82	~droughty	0.82	~droughty	0.82	~slope	0.60		
	(limited)		(limited)		(limited)		(moderately limited)			
	~slope	0.30	~slope	0.30	~slope	0.60				
	(moderately limited)		(moderately limited)		(moderately limited)					
73118:										
Rueter-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.56	~droughty	0.56	~droughty	0.56			~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)				(very limited)	
									~too cobbly	0.04
									(slightly limited)	
Goss-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.43	~droughty	0.43	~droughty	0.43			~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)				(moderately limited)	
73119:										
Rueter-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	0.54	~droughty	0.54	~droughty	0.54			~slope	1.00
	(moderately limited)		(moderately limited)		(moderately limited)				(very limited)	
									~too acid	0.03
									(slightly limited)	



Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73122:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones	0.30	~too cobbly	0.50
	(very limited)		(very limited)		(very limited)		(moderately limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73123:										
Mano-----	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~slope	0.45	~slope	0.45	~slope	0.70	~slope	0.70	~percs slowly	1.00
	(moderately limited)		(moderately limited)		(limited)		(limited)		(very limited)	
	~droughty	0.00	~droughty	0.00	~droughty	0.00			~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)				(very limited)	
Ocie-----	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly	0.60	~percs slowly	0.60	~slope	0.70	~slope	0.70	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~slope	0.45	~slope	0.45	~percs slowly	0.60	~percs slowly	0.60	~depth to bedrock	1.00
	(moderately limited)		(moderately limited)		(limited)		(limited)		(very limited)	
	~too acid	0.18	~too acid	0.18	~too acid	0.18	~depth to bedrock	0.39	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)		(very limited)	
73124:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~too acid	0.24	~too acid	0.24	~too acid	0.24	~too acid	0.24	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~depth to bedrock	0.60	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(limited)		(very limited)	
							~large surface stones	0.13	~depth to bedrock	1.00
							(slightly limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73125:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	0.70	~slope	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~slope	0.45	~slope	0.45	~slope	0.70	~large stones	0.30	~too cobbly	0.50
	(moderately limited)		(moderately limited)		(limited)		(moderately limited)		(moderately limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73126:										
Knobby-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~bedrock <20 in.	1.00	~large stones	0.15	~too cobbly	0.12
	(very limited)		(very limited)		(very limited)		(slightly limited)		(slightly limited)	
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73127:										
Gobbler-----	Slightly limited		Slightly limited		Moderately limited		Moderately limited		Very limited	
	~droughty	0.03	~droughty	0.03	~slope	0.30	~depth to bedrock	0.48	~percs slowly	1.00
	(slightly limited)		(slightly limited)		(moderately limited)		(moderately limited)		(very limited)	
					~droughty	0.03	~slope	0.30	~depth to bedrock	1.00
					(slightly limited)		(moderately limited)		(very limited)	
									~slope	0.91
									(limited)	
Sonsac-----	Slightly limited		Slightly limited		Moderately limited		Very limited		Very limited	
	~slope	0.15	~slope	0.15	~slope	0.45	~depth to bedrock	1.00	~percs slowly	1.00
	(slightly limited)		(slightly limited)		(moderately limited)		(very limited)		(very limited)	
	~depth to bedrock	0.15	~depth to bedrock	0.15	~depth to bedrock	0.15	~slope	0.45	~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)		(very limited)	
	~droughty	0.04	~droughty	0.04	~droughty	0.04			~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)				(very limited)	
73128:										
Gobbler-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.50	~droughty	0.50	~droughty	0.50	~depth to bedrock	0.30	~depth to bedrock	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(very limited)	
	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~percs slowly	0.99
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73128:										
Sonsac-----	Limited		Limited		Limited		Very limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~depth to bedrock	1.00	~percs slowly	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
	~droughty	0.61	~droughty	0.61	~droughty	0.61	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~depth to bedrock	0.46	~depth to bedrock	0.46	~depth to bedrock	0.46			~depth to bedrock	1.00
	(moderately limited)		(moderately limited)		(moderately limited)				(very limited)	
73129:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	0.30	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(moderately limited)		(very limited)	
					~slope	0.30			~slope	0.91
					(moderately limited)				(limited)	
73130:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~slope	0.89	~slope	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	~slope	0.68	~slope	0.68	~slope	0.89			~depth to bedrock	1.00
	(limited)		(limited)		(limited)				(very limited)	
73131:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty	1.00	~droughty	1.00	~slope	1.00	~depth to bedrock	1.00	~percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~droughty	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~slope	1.00	~slope	1.00	~bedrock <20 in.	1.00			~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)				(very limited)	
73132:										
Gasconade-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~droughty	1.00	~droughty	1.00	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~droughty	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~bedrock <20 in.	1.00	~large stones >35%	0.99	~too cobbly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
73133:										
Alred-----	Slightly limited		Slightly limited		Moderately limited		Moderately limited		Very limited	
	~droughty	0.11	~droughty	0.11	~slope	0.30	~slope	0.30	~percs slowly	1.00
	(slightly limited)		(slightly limited)		(moderately limited)		(moderately limited)		(very limited)	
					~droughty	0.11			~too stony	1.00
					(slightly limited)				(very limited)	
									~slope	0.91
									(limited)	
Ocie-----	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
					~slope	0.30	~depth to bedrock	0.60	~depth to bedrock	1.00
					(moderately limited)		(limited)		(very limited)	
							~slope	0.30	~slope	0.91
							(moderately limited)		(limited)	
73134:										
Alred-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~slope	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
	~droughty	0.02	~droughty	0.02	~droughty	0.02			~large surface stones	0.13
	(slightly limited)		(slightly limited)		(slightly limited)				(slightly limited)	
Ocie-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~percs slowly	0.60	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~too acid	0.18	~too acid	0.18	~too acid	0.18	~depth to bedrock	0.57	~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)		(very limited)	
Sonsac-----	Limited		Limited		Limited		Very limited		Very limited	
	~large surface stones	0.79	~large surface stones	0.79	~slope	0.99	~depth to bedrock	1.00	~percs slowly	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
	~slope	0.76	~slope	0.76	~large surface stones	0.79	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~depth to bedrock	0.18	~depth to bedrock	0.18	~depth to bedrock	0.18	~large surface stones	0.79	~depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
74638:										
Waben-----	Not limited		Not limited		Moderately limited		Moderately limited		Limited	
					~slope	0.30	~slope	0.30	~slope	0.91
					(moderately limited)		(moderately limited)		(limited)	
									~percs slowly	0.32
									(moderately limited)	
									~too cobbly	0.03
									(slightly limited)	
74639:										
Waben-----	Limited		Limited		Limited		Limited		Very limited	
	~slope	0.76	~slope	0.76	~slope	0.99	~slope	0.99	~slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~too acid	0.48	~too acid	0.48	~too acid	0.48	~too acid	0.48	~percs slowly	0.32
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~droughty	0.04	~droughty	0.04	~droughty	0.04				
	(slightly limited)		(slightly limited)		(slightly limited)					
74640:										
Hootentown----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Very limited	
	~flooding	0.30	~flooding	0.30	~flooding	0.30	~flooding	0.30	~percs slowly	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
75401:										
Horsecreek----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~flooding	0.60
									(moderately limited)	
Jamesfin-----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~flooding	0.60
									(moderately limited)	
75402:										
Pinerun-----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
									~flooding	0.60
									(moderately limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value	Limitation	Value
75403:										
Cedargap-----	Limited		Limited		Limited		Limited		Very limited	
	~droughty	0.97	~droughty	0.97	~droughty	0.97	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~flooding	0.90	~flooding	0.90	~flooding	0.90			~flooding	0.60
	(limited)		(limited)		(limited)				(moderately limited)	
Woolly-----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.90	~droughty	0.90	~droughty	0.90	~depth to bedrock	0.45	~depth to bedrock	1.00
	(limited)		(limited)		(limited)		(moderately limited)		(very limited)	
									~flooding	0.60
									(moderately limited)	
75404:										
Pinerun-----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.63	~droughty	0.63	~droughty	0.63	~too acid	0.18	~flooding	0.60
	(limited)		(limited)		(limited)		(slightly limited)		(moderately limited)	
	~too acid	0.18	~too acid	0.18	~too acid	0.18				
	(slightly limited)		(slightly limited)		(slightly limited)					
75405:										
Pinerun-----	Limited		Limited		Limited		Limited		Very limited	
	~flooding	0.90	~flooding	0.90	~flooding	0.90	~flooding	0.90	~percs slowly	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	~droughty	0.00	~droughty	0.00	~droughty	0.00			~flooding	0.60
	(slightly limited)		(slightly limited)		(slightly limited)				(moderately limited)	
Waben-----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Slightly limited	
	~too acid	0.24	~too acid	0.24	~too acid	0.24	~too acid	0.24	~percs slowly	0.32
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(moderately limited)	
					~slope	0.10	~slope	0.10	~slope	0.31
					(slightly limited)		(slightly limited)		(moderately limited)	
99000:										
Pits, quarries-	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99005:										
Landfills-----	Not rated		Not rated		Not rated		Not rated		Not rated	

# Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

## Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 18). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than

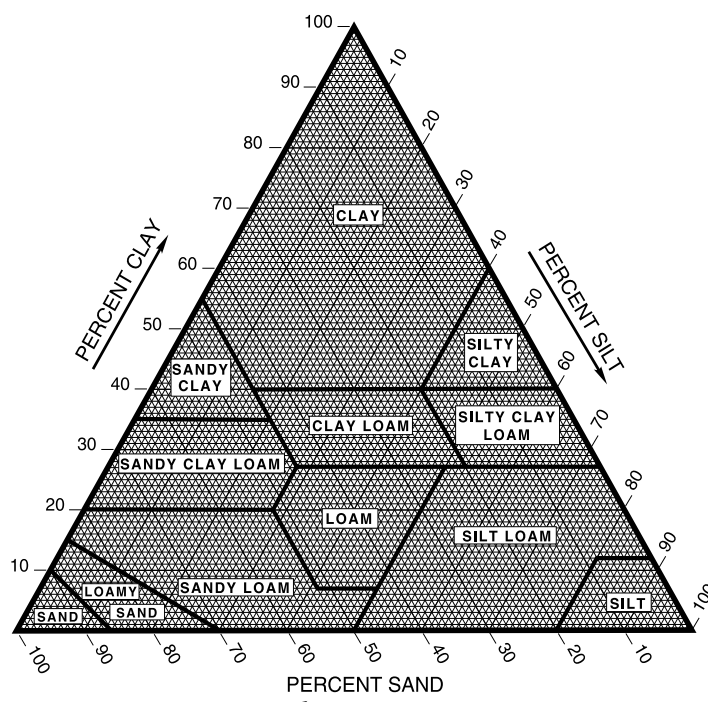


Figure 18.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 1993) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1986).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering

properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

## Physical and Chemical Properties

Table 18 shows estimates of some physical and chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in micrometers per second ( $\mu\text{m/sec}$ ), when the soil is saturated. They are based on soil characteristics

observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Water Features

Table 19 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding*, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration* and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions

(the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

Table 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Potential frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the

freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid	Plas-
			Unified	AASHTO	>10	3-10	sieve number--				limit	ticity
					inches	inches	4	10	40	200		index
	In				Pct	Pct					Pct	
70030:												
Noark-----	0-3	GRV-SIL	GC-GM	A-2-4	0-5	0-15	30-50	25-50	25-50	20-45	15-30	3-10
	3-8	GR-SIL, GRV-SIL	GC-GM	A-2-4	0-5	0-10	30-75	25-75	25-70	20-60	15-30	3-10
	8-16	GRV-SIL, GRV-SICL, GR-SIL	GC	A-4, A-6	0-5	0-20	30-70	25-65	25-60	20-55	25-40	8-20
	16-60	GRV-C, GRX-C	GM	A-7, A-2-7	0-5	0-50	10-50	10-50	10-50	10-45	45-85	20-40
Clarksville----	0-9	GRV-SI	GC-GM	A-4	0-5	0-30	30-70	25-50	20-50	20-45	20-30	3-10
	9-33	GRV-SIL, GRV-SICL, GRX-SICL	GC	A-2-6, A-2-4	0-5	0-30	30-70	10-60	10-50	5-45	25-45	7-20
	33-60	GRV-C	GM	A-2-7	0-5	0-30	30-70	20-60	10-50	10-45	45-70	20-35
70031:												
Hailey-----	0-10	GRX-SI	GM	A-1-a, A-1-b	0-5	0-30	20-45	10-40	10-40	10-30	15-25	NP-10
	10-60	CBX-SIL, GRV-SIL, GRX-SIL	GM	A-1-a, A-1-b	0-5	0-70	10-55	10-50	5-50	5-45	15-35	NP-15
Rueter-----	0-2	GRV-SIL	GM	A-2-4	0	0-10	30-70	25-50	15-50	15-45	15-30	NP-10
	2-8	GRV-SI, GR-SIL, GRV-SIL	GC-GM, GC, GM	A-2-4	0	0-10	30-70	10-60	5-55	5-35	15-30	NP-10
	8-48	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-6, A-2-4	0	0-50	15-70	10-60	10-50	5-45	20-40	3-20
	48-71	GRV-C, GRX-C	GM	A-2-7	0	0-10	15-70	10-60	10-50	5-45	45-80	20-40
70032:												
Tonti-----	0-10	GR-SI	CL-ML	A-4	0	0-5	55-95	55-75	45-75	45-70	15-25	NP-5
	10-27	GR-SICL, GR-SIL, SICL	CL	A-6	0	0-5	60-95	55-95	45-95	45-90	30-45	10-20
	27-38	GRX-SIL, GRV-SICL	CL	A-2-4	0-5	0-35	15-55	10-50	5-50	5-45	25-40	7-15
	38-60	GRX-C, GRV-C	GC-GM	A-2-7	0-5	0-15	15-55	10-50	5-50	5-45	45-80	20-40
70033:												
Moko-----	0-5	CNV-SICL	CL	A-7-6	0-10	25-70	75-98	70-95	55-95	55-90	25-45	10-25
	5-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
70034:												
Moko-----	0-7	GRV-CL	GC	A-6	0-10	0-15	30-65	25-60	25-60	20-55	35-45	15-25
	7-14	GRV-SIL, GRX-CL, GRV-CL	GC	A-2-7	0-15	0-25	15-60	10-55	5-55	5-50	30-45	10-20
	14-80	UWB			---	---	---	---	---	---	---	---
Blueye-----	0-6	GRV-SICL	GC	A-7-6	0	0-10	30-55	25-50	20-50	20-45	25-45	5-20
	6-10	GR-SIL, GRV-SIL, GR-SICL	CL	A-7-6	0	0-10	40-75	35-75	30-75	25-70	25-45	5-25
	10-30	SIC, GR-SIC, C	CH	A-7-6	0	0-5	55-95	50-90	50-90	40-85	50-70	25-45
	30-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
70035:												
Sonsac-----	0-2	CB-SIL	CL-ML	A-4	0	10-20	75-100	70-95	35-90	35-85	20-35	1-15
	2-6	SIL, GR-SIL, GRV-SIL	CL-ML	A-4	0	0-15	30-90	25-85	20-60	15-55	20-40	5-15
	6-17	GRV-SICL, GRX-L, GRV-SIL	GC-GM	A-2-7	0-10	0-10	30-70	25-65	20-60	15-60	30-50	10-25
	17-38	GRV-C, GR-C, C, GRX-C	GM	A-2-7, A-7-6	0	0-25	30-90	25-85	20-85	15-80	50-70	20-45
	38-80	UWB			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
70035:												
Gobbler-----	0-3	GRV-SIL	GC	A-4	0	0-15	30-90	25-85	15-50	15-50	25-35	7-15
	3-9	GRV-SIL, GR-SIL	GC-GM	A-2-4	0	0-35	30-55	20-50	15-50	15-45	25-35	8-15
	9-16	GRV-SIL, GRX-SICL, GRV-SICL	GC	A-2-6	0	0-30	20-55	15-50	10-40	10-40	25-50	10-25
	16-46	GR-C, CBV-C, CB-C	GM	A-2-7	0-30	0-50	30-80	25-75	20-75	20-70	45-75	20-35
	46-80	UWB			---	---	---	---	---	---	---	---
70036:												
Sonsac-----	0-3	GRV-SIL	CL-ML	A-4, A-6	0	0-15	25-65	25-60	15-50	15-50	15-35	1-15
	3-20	GRV-SICL, GR-SIL, GRV-SIL	GC-GM	A-2-7	0	0-10	40-90	35-85	20-85	20-80	30-45	10-20
	20-32	C, GRV-C	GC-GM	A-2-7, A-7-6	0	0-5	30-90	25-85	20-60	15-60	50-70	20-45
	32-80	UWB			---	---	---	---	---	---	---	---
Gobbler-----	0-5	GRX-SIL	GC-GM	A-2-4, A-2-6	0	0-25	15-40	10-35	5-25	5-25	25-35	7-16
	5-15	GR-SIL, GRX-SIL, GRV-SIL	GC-GM	A-1-a, A-1-b, A-2-4	0	0-35	25-60	20-55	10-55	10-50	20-35	4-15
	15-21	GRV-SIL, GRV-C, GRX-SICL, GRV-SICL	GC	A-6	0	0-30	20-70	15-65	10-60	10-60	25-60	10-35
	21-47	GR-C, GRV-C, GRX-C, GRV-SIC	GM	A-2-7	0-30	0-50	25-65	15-60	10-60	10-55	45-75	20-35
	47-80	UWB			---	---	---	---	---	---	---	---
70037:												
Sonsac-----	0-3	GRV-SIL	CL-ML	A-4, A-2-4	0	0-15	30-65	25-60	15-50	15-50	20-30	3-10
	3-15	GRX-SIL, GRV-SIL	CL-ML	A-4, A-2-4	0	0-15	25-55	20-50	10-50	10-45	20-35	5-15
	15-36	GRV-C, GR-C, GRX-C	GM	A-2-7	0	0-5	20-65	15-60	10-60	10-55	45-75	20-35
	36-80	UWB			---	---	---	---	---	---	---	---
Rueter-----	0-5	GRX-SIL	GC-GM	A-1-b, A-1-a	0	0-25	15-40	10-35	5-25	5-25	15-25	3-8
	5-12	GRX-SIL, GRV-SIL	GC-GM	A-1-b, A-1-a	0	0-20	15-50	10-40	5-40	5-35	20-30	4-10
	12-35	GRV-SIL, GRX-SIL, GRV-SICL	GC-GM	A-2-4	0	0-35	30-60	20-50	10-50	10-50	20-35	4-15
	35-60	GR-C, GRV-C, C	GM	A-7	0	0-20	40-90	30-85	15-85	15-80	50-80	25-40
70038:												
Moko-----	0-5	FLV-SICL	GC	A-6, A-2-7	0-15	20-65	30-55	25-50	15-50	15-45	35-50	15-25
	5-10	FLX-SICL, FLX-SIL	CL	A-6, A-7-6	0-15	10-80	65-90	60-85	55-75	40-75	35-50	15-25
	10-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
70050:												
Rueter-----	0-7	GRV-SIL	GC-GM	A-4	0	0-15	40-65	35-60	15-50	15-50	15-25	3-8
	7-11	GRV-SIL	GC-GM	A-4	0	0-20	30-65	25-60	15-60	15-55	20-30	4-10
	11-28	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-4, A-4	0	0-35	30-70	10-45	5-45	5-40	20-35	4-15
	28-60	CBV-C, GRV-C	GM	A-2-7	0-50	0-25	30-60	25-55	15-55	15-50	50-80	25-40
Goss-----	0-6	GR-SIL	GC-GM	A-4	0	0-10	40-90	35-85	30-75	30-75	20-30	2-10
	6-18	GRX-SIL, GRV-SIL, GRV-SICL	GC-GM	A-2-4, A-2-6	0	0-40	25-55	20-50	10-50	10-45	20-30	2-15
	18-60	GRV-C, GRX-SIC, CBV-C, GRV-SICL	GC	A-2-7	0-20	0-30	30-65	25-60	15-60	15-55	50-70	25-40

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid	Plasticity
			Unified	AASHTO	>10 inches	3-10 inches	sieve number--				limit	index
	In				Pct	Pct					Pct	
70051:												
Hailey-----	0-10	GRX-SI	GM	A-1-a, A-1-b	0-5	0-25	20-40	10-35	5-25	5-25	15-25	NP-8
	10-60	CBX-SIL, GRV-SIL, GRX-SIL	GM	A-1-a, A-1-b	0-5	0-80	10-50	5-50	5-50	5-45	15-35	NP-15
Rueter-----	0-2	GRV-SIL	GM	A-2-4	0	0-15	15-65	10-60	5-55	5-50	15-30	NP-10
	2-8	GRV-SI, GR-SIL, GRV-SIL	GC-GM	A-2-4	0	0-10	30-70	10-60	5-55	5-40	15-30	NP-10
	8-48	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-6, A-2-4	0	0-50	15-70	10-60	10-50	5-45	20-40	3-20
	48-60	GRV-C, GRX-C	GM	A-2-7	0	0-10	15-70	10-60	10-50	5-45	45-80	20-40
71252:												
Britwater-----	0-10	GR-SIL	GC-GM	A-4	0	0	60-80	55-75	30-75	30-70	20-35	3-15
	10-27	GR-SIL, SIL, GR-SICL	GC	A-6	0	0	60-95	55-90	30-90	30-80	25-40	10-20
	27-50	GR-L, GRV-L, GR-SICL	GC	A-2-6, A-6, A-7-6	0	0	60-80	40-75	20-75	20-70	35-60	15-30
	50-60	GR-SICL, GRV-SIC, GR-C, GRV-CL	GC	A-7-6, A-6, A-7	0	0	25-80	20-75	20-75	15-70	35-65	15-40
73070:												
Sowcoon-----	0-9	SIL	CL	A-4, A-6	0	0	90-100	85-100	45-95	45-95	20-35	4-15
	9-28	SIL	CL-ML	A-4, A-6	0	0	90-100	85-100	45-95	45-95	25-35	5-15
	28-45	SIL, SIC, GR-SIL, GR-SICL	CL	A-4, A-6	0	0	60-100	55-100	50-95	50-95	25-55	6-30
	45-60	SIL, GR-SICL, GRV-SIL, SIC	CL	A-4, A-6	0	0	50-100	45-100	35-95	35-95	25-55	6-30
73113:												
Scholten-----	0-8	GRV-SIL	GC-GM	A-2, A-4, A-6	0	0-15	30-65	25-60	15-50	15-50	20-35	3-20
	8-19	GRV-SIL, GRX-SIL, GRV-SICL, GRX-SICL	GC-GM	A-2-7, A-4	0	0-15	25-65	20-60	10-60	10-55	25-50	5-25
	19-34	GRX-SIL, GRX-SICL, GRV-SIL	GC	A-2-6, A-4, A-6	0-10	0-40	10-45	5-40	5-40	5-35	25-40	8-15
	34-60	GRV-C, GR-C, GRX-C	GM	A-2-7	0-10	0-40	20-75	15-70	10-70	10-65	45-80	20-40
73114:												
Captina-----	0-11	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-95	25-35	7-15
	11-26	SIL, SICL	CL	A-6, A-7-6	0	0	95-100	90-100	45-100	45-95	30-50	10-25
	26-53	GRX-SIL, GRV-SIL, GRX-SICL, GRV-SICL	GC	A-2-4, A-2-6	0-5	0-15	20-35	15-30	10-30	10-25	25-40	8-15
	53-60	GR-C, GRV-C	MH	A-7-5	0-5	0-30	35-65	30-60	15-60	15-60	50-80	15-40
73115:												
Horneybuck-----	0-8	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-90	20-30	4-10
	8-24	GR-SIL, GR-SICL, SIL, SICL	CL	A-6, A-7-6	0	0	60-100	55-100	30-95	30-95	20-43	7-20
	24-40	GR-SIL, GR-SICL, GRV-SIL, SICL	CL	A-6	0	0	40-100	35-100	20-95	20-95	25-35	8-15
	40-60	GRV-SICL, GRX-L, GRV-SIC	GC	A-2-7, A-2-6, A-7-6	0	0-20	15-80	10-75	5-75	5-70	25-50	8-25

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	sieve number--					
	In				Pct	Pct	4	10	40	200	Pct	
73115: Tonti-----	0-10	SI	ML	A-4	0	0-5	80-100	75-100	40-95	40-90	15-25	NP-5
	10-28	GR-SICL, GR-SIL, SICL	CL	A-4, A-6	0	0-5	60-95	55-90	30-90	30-85	25-40	8-20
	28-57	GRX-SIL, GRV-SICL, GR-SIL	GC	A-2-4, A-4, A-6	0-5	0-35	20-65	15-60	10-60	10-55	25-40	7-20
	57-60	GRX-C, GRV-C	GC	A-2, A-7, A-2-7	0-5	0-30	20-55	15-50	10-50	10-45	45-80	25-50
73116: Pomme-----	0-7	SIL	CL	A-4, A-6	0	0-10	80-100	75-100	45-95	45-90	25-35	7-15
	7-19	SICL, GR-SIL, GR-SICL, CL	CL	A-4, A-6, A-7-6	0	0-10	70-95	65-90	50-85	50-75	30-45	8-20
	19-57	GRV-SICL, CBV-SICL	GC	A-2, A-6, A-7-6	0	0-30	25-50	25-45	25-45	20-40	35-50	15-25
	57-86	GRX-C, CBV-C	GC	A-2-7, A-7-6	0	0-45	15-45	15-45	15-45	15-40	50-65	25-40
73117: Clarksville----	0-9	GRV-SIL	GC-GM	A-2-4	0-5	0-15	30-70	25-65	15-50	15-50	20-30	3-10
	9-32	GRV-SIL, CBX-SIL, GRV-SICL	GC-GM	A-4, A-6, A-2-4	0-5	0-50	10-45	5-40	5-40	5-35	25-45	7-20
	32-60	CBX-SIC, GRV-C, GRX-SIC	GW-GM	A-2-7, A-7	0-5	0-45	30-75	20-70	10-70	10-65	45-75	20-35
Scholten-----	0-7	GRV-SI	GC-GM	A-2, A-4	0	0-15	30-65	25-60	20-50	20-50	15-23	3-5
	7-24	GRV-SIL, GRV-SICL, GRX-SICL	GC	A-2-4, A-2-7	0	0-15	25-55	20-50	10-50	10-45	25-50	5-25
	24-30	GRX-SICL, GRV-SIL	GC	A-2-6	0-10	0-40	10-40	5-35	5-35	5-30	25-40	8-15
	30-60	GR-C, GRX-C, GRV-C	GM	A-7-5, A-7	0-10	0-40	20-65	15-60	10-60	10-55	50-80	15-40
Hailey-----	0-15	GRV-SIL	GM	A-2-4, A-1-b, A-4	0-5	0-15	30-65	25-60	15-50	15-50	15-25	1-8
	15-60	GRX-SIL, GRV-SIL	GC	A-2-4, A-2-6	0-5	0-80	10-45	5-40	5-40	5-35	20-35	4-15
73118: Rueter-----	0-7	GRV-SIL	GC-GM	A-4	0	0-15	40-65	35-60	15-50	15-50	15-25	3-8
	7-11	GRV-SIL	GC-GM	A-4	0	0-20	30-65	25-60	15-60	15-55	20-30	4-10
	11-28	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-4, A-4	0	0-35	30-70	10-45	5-45	5-40	20-35	4-15
	28-60	CBV-C, GRV-C	GM	A-2-7	0-50	0-25	30-60	25-55	15-55	15-50	50-80	25-40
Goss-----	0-6	GR-SIL	GC-GM	A-4	0	0-10	40-90	35-85	30-75	30-75	20-30	2-10
	6-18	GRX-SIL, GRV-SIL, GRV-SICL	GC-GM	A-2-4, A-2-6	0	0-40	25-55	20-50	10-50	10-45	20-30	2-15
	18-60	GRV-C, GR-C, CBV-C	GC	A-2-7, A-7-6	0-20	0-30	30-65	25-60	15-60	15-60	45-70	20-40
73119: Rueter-----	0-3	GRX-SIL	GW-GM	A-1-a	0	0-25	15-40	10-35	5-25	5-25	15-25	3-8
	3-14	GRV-SI, GRV-SIL, GRX-SI	GC-GM	A-2-4	0	0-20	30-50	25-45	15-45	15-40	20-30	4-10
	14-29	GRX-SIL, GRV-SIL, GRV-SICL	GC-GM	A-2-4	0	0-35	20-55	15-50	12-50	12-45	20-35	4-15
	29-60	GRV-C, GRX-C	GM	A-2-7	0	0-20	15-55	10-50	10-50	10-45	50-80	25-40
Hailey-----	0-10	GRX-SI	GM	A-1-a, A-1-b	0-5	0-25	20-60	10-25	10-25	10-20	15-25	NP-5
	10-60	CBX-SIL, GRV-SIL, GRX-SIL	GC	A-1-a, A-1-b	0-5	0-80	10-55	5-50	5-50	5-45	15-35	NP-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid	Plasticity
			Unified	AASHTO	>10 inches	3-10 inches	sieve number--				limit	index
	In				Pct	Pct					Pct	
73120:												
Rueter-----	0-4	GRX-SIL	GC-GM	A-1-a	0	0-25	25-40	10-35	5-25	5-25	15-25	3-8
	4-11	GRV-SIL	GC-GM	A-2-4	0	0-20	25-45	20-40	10-40	10-35	20-30	4-10
	11-44	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-6, A-4	0	0-35	25-50	20-45	10-45	10-40	20-35	4-15
	44-60	GRV-SIC, GR-SIC, GRV-C	GM	A-7-5	0	0-20	40-65	35-60	20-60	20-55	55-80	20-40
Gasconade-----	0-8	FLV-SIC, FLV-SICL	GC	A-7-6	0	20-70	30-100	25-100	20-95	20-95	45-60	20-30
	8-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
73121:												
Scholten-----	0-10	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-95	20-35	3-15
	10-27	GRV-SIL, GRV-SICL	GC-GM	A-2-4, A-6, A-4	0	0-15	30-75	25-70	15-70	15-65	25-50	5-25
	27-34	GRX-SIL, GRV-SIL, GRX-SICL	GC-GM	A-2, A-4, A-2-4	0-10	0-40	15-55	10-50	5-50	5-50	25-40	8-15
	34-60	GRV-C, GRX-C	GM	A-2-7, A-7-5	0-10	0-40	15-50	10-45	5-45	5-40	50-80	15-40
Tonti-----	0-7	SI	CL-ML	A-4	0	0-5	90-100	85-100	65-95	65-95	15-25	NP-5
	7-27	SIL, GR-SIL, SICL, GR-SICL	CL	A-4, A-6	0	0-5	60-95	55-90	30-90	30-85	25-40	8-20
	27-47	GR-SICL, GRV-SICL, GRV-SIL, GR-SIL	CL	A-2, A-4, A-6	0-5	0-35	50-80	45-75	30-75	30-70	25-40	7-20
	47-60	GR-SICL, GRV-SICL, GRV-C	CL	A-7-6, A-7	0-5	0-15	45-80	40-75	25-75	25-70	35-80	10-50
73122:												
Gasconade-----	0-6	CBV-SIC	GC	A-7-6	0-20	0-30	40-60	35-55	35-50	30-50	45-60	25-30
	6-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
73123:												
Mano-----	0-4	GRV-SIL	GC	A-4, A-2, A-1	0-10	0-15	30-70	25-65	15-50	15-50	15-25	3-8
	4-10	GRV-SIL	GC	A-4, A-2	10-15	0-20	25-55	25-50	25-50	25-45	15-25	3-8
	10-29	GRV-SIL, GRV-SICL	GC	A-6, A-2	0-5	0-10	25-55	25-50	25-50	25-45	30-40	10-15
	29-72	C, GR-C	CH	A-7	0	0-5	70-95	70-95	65-90	55-85	50-75	30-45
Ocie-----	0-19	GRV-SIL	SC-SM	A-1, A-2, A-4	0	0-15	40-75	40-70	30-65	20-60	20-30	4-10
	19-39	GRV-SICL, GRX-SICL	GC	A-2	0-5	0-30	15-30	10-25	5-25	5-20	35-50	15-30
	39-52	GR-C, C	CH	A-7	0	0-15	60-95	55-90	30-90	30-80	55-85	30-55
	52-80	UWB			---	---	---	---	---	---	---	---
73124:												
Alred-----	0-8	GRV-SIL	GC-GM	A-1, A-4	0-5	0-15	30-65	25-60	15-50	15-50	20-35	3-15
	8-22	GRX-SIL, GRV-L, GRV-SIL	GC-GM	A-1, A-4	0	0-25	15-55	10-50	5-45	5-40	20-35	4-15
	22-31	GRV-SIL, GRX-SIL, GRV-SICL	GC	A-2-6, A-6	0	0-25	25-55	20-50	15-45	15-40	30-45	10-20
	31-60	CB-C, GR-C, C, GRV-C	SC	A-7	0	0-30	55-100	50-100	45-100	45-95	45-90	20-55

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid	Plas-
			Unified	AASHTO	>10 inches	3-10 inches	sieve number--				limit	ticity
	In				Pct	Pct	4	10	40	200	Pct	index
73124:												
Ocie-----	0-3	GR-SIL	CL-ML	A-4	0	0-10	60-90	55-85	30-75	30-75	20-30	4-11
	3-8	GRV-SIL, GR-	CL-ML	A-1, A-2-4,	0	0-10	25-85	20-80	10-80	10-75	15-30	NP-11
		SIL, GRX-SIL		A-4								
	8-23	GRV-SIL, GR-SIL	GC-GM	A-1-b, A-2-4,	0	0-10	35-55	30-50	15-50	15-45	20-30	5-15
				A-2-6								
	23-45	ST-C, C, GR-C	MH	A-7-5	0	0-15	60-100	55-100	30-100	30-95	55-85	20-50
	45-80	UWB			---	---	---	---	---	---	---	---
73125:												
Knobby-----	0-6	FLV-SIL	GC	A-2-4	0-15	25-70	45-100	40-100	25-95	25-95	15-30	NP-10
	6-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
73126:												
Knobby-----	0-4	CNV-SIL	GC-GM	A-4, A-1-b,	0-15	20-70	35-100	30-100	15-95	15-95	15-30	NP-10
				A-2-4								
	4-80	UWB			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	UWB			---	---	---	---	---	---	---	---
73127:												
Gobbler-----	0-2	GR-SIL	CL-ML	A-4, A-6,	0	0-10	60-90	55-85	30-85	30-80	25-35	7-15
				A-2-6								
	2-16	GRV-SIL, GR-	CL	A-6	0	0-35	40-90	35-85	30-85	30-80	25-40	10-20
		SIL, GRV-SICL										
	16-43	GRX-C, GRV-C,	GC	A-2-7, A-2-6	0	0-30	20-50	15-45	10-45	10-40	40-55	15-30
		CBX-C, GRV-										
		SICL										
	43-49	GR-C, CBV-C,	GM	A-7-5, A-7	0-50	0-50	30-90	25-85	15-85	15-80	50-80	15-40
		GRX-C, C										
	49-80	UWB			---	---	---	---	---	---	---	---
Sonsac-----	0-2	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-95	15-35	3-10
	2-13	GR-SIL, GRV-SIL	CL	A-2-6, A-4	0-5	0-10	30-80	25-75	20-60	15-55	15-40	3-15
	13-35	GRV-SICL, GRX-	CL	A-7	0-5	0-10	30-70	25-65	20-60	15-60	40-60	15-30
		SICL, GRV-C										
	35-80	UWB			---	---	---	---	---	---	---	---
73128:												
Gobbler-----	0-3	GRV-SIL	GC	A-6, A-2-6	0	0-25	30-65	25-60	15-50	15-50	25-40	7-20
	3-13	GRV-SICL, GR-	GC	A-2-6	0	0-35	40-90	35-85	20-85	20-80	30-40	10-20
		SIL, SIL										
	13-29	GRX-C, GR-C,	GC	A-2-7	0	0-30	20-80	15-75	10-70	10-70	40-55	20-30
		GRX-SICL,										
		CBV-C										
	29-55	CBV-C, GR-C,	GM	A-7	0-50	0-50	25-95	20-90	15-85	15-85	45-80	20-40
		CBX-C, C										
	55-80	UWB			---	---	---	---	---	---	---	---
Sonsac-----	0-5	GR-SIL	GC	A-4, A-6	0	0-10	60-90	55-85	30-75	30-75		

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73130:												
Gasconade-----	0-6	GRV-CL	GC	A-2-7, A-6	0-5	0-15	30-65	25-60	15-50	15-45	35-50	15-25
	6-15	GRV-C, GRV-CL	GC	A-7-6	0	0-70	25-55	20-50	10-50	10-45	45-65	20-40
	15-80	UWB			---	---	---	---	---	---	---	---
73131:												
Gasconade-----	0-6	GRV-SIC	GC	A-2-7	0-5	0-15	30-65	25-60	20-50	20-50	45-65	25-40
	6-16	GRX-C, GRV-C	GC	A-2-7	0-5	0-70	20-65	15-60	10-60	10-55	45-60	20-30
	16-80	UWB			---	---	---	---	---	---	---	---
73132:												
Gasconade-----	0-9	CNV-SICL	GC	A-7	0-15	25-70	50-100	45-100	35-95	35-95	40-50	20-25
	9-80	UWB			---	---	---	---	---	---	---	---
73133:												
Alred-----	0-9	GR-L	SC	A-2-4, A-4	0	0-10	60-90	55-85	30-75	30-70	20-35	3-15
	9-21	GRV-L	GC	A-2-4, A-4	0	0-25	15-55	10-50	10-50	10-45	20-35	4-15
	21-39	STX-SCL	GC	A-2-6, A-6	0-50	0-55	20-75	15-70	5-70	5-50	30-45	10-20
	39-60	CB-C, GR-C, C	CH	A-7-5	0	0-30	60-100	55-100	30-95	30-85	50-90	15-55
Ocie-----	0-3	SIL	ML	A-4	0	0-5	90-100	85-100	45-95	45-90	15-30	2-10
	3-15	GRV-SIL, GR-SIL, SIL	CL-ML	A-2-4, A-2-6, A-4	0	0-10	55-95	50-90	25-80	25-80	20-35	4-15
	15-29	GRX-SICL, GRX-CL	GC	A-2	0-5	0-30	15-50	10-45	5-45	5-30	35-50	15-30
	29-45	C, GR-C, SIC	CH	A-7	0	0-15	70-95	65-90	65-90	60-80	55-85	30-55
	45-80	UWB			---	---	---	---	---	---	---	---
73134:												
Alred-----	0-12	GRV-SIL	GC-GM	A-4, A-2-4, A-2	0	0-15	30-65	25-60	15-50	15-50	20-35	4-15
	12-18	GRV-SIL	GC	A-2, A-4, A-2-4	0	0-25	15-55	10-50	10-45	10-40	25-35	7-15
	18-30	GRX-L	GW-GC	A-2, A-6, A-2-6	0	0-25	12-55	10-50	5-45	5-40	30-35	10-15
	30-61	GR-C, CB-C, C	CH	A-7-5	0	0-30	65-95	60-90	35-90	35-85	60-90	25-55
Ocie-----	0-7	GR-SIL	GC-GM	A-4	0	0-10	60-90	55-85	30-75	30-75	20-30	4-10
	7-18	GRV-SIL, GR-SIL	GC-GM	A-6, A-4	0	0-10	50-80	45-75	35-75	35-70	20-30	5-15
	18-33	GRX-SICL, GRX-SIL	GC	A-2-7	0-5	0-30	12-30	10-25	5-25	5-20	35-50	15-30
	33-46	GR-C, C, SIC	MH	A-7-5	0	0-15	60-95	55-90	30-90	30-80	60-85	25-50
	46-80	UWB			---	---	---	---	---	---	---	---
Sonsac-----	0-4	GR-SIL	GC	A-4, A-6	0	0-10	60-90	55-85	30-75	30-75	15-35	1-15
	4-13	GRV-SIL	GC-GM	A-4, A-6	0	0-10	35-55	30-50	15-50	15-45	25-35	5-15
	13-19	GRV-SICL	GC	A-2-7	0	0-10	35-55	25-50	15-50	15-45	40-70	20-40
	19-34	GR-C, C	GM	A-7	0	0-5	40-90	35-85	20-85	20-80	45-80	20-40
	34-80	UWB			---	---	---	---	---	---	---	---
74638:												
Waben-----	0-3	GRV-SIL	GC-GM	A-1, A-2, A-4	0-5	0-15	30-65	25-60	15-50	15-50	15-30	NP-10
	3-8	GRV-SIL, GRX-SIL	GC-GM	A-1, A-2, A-4	0-5	0-10	30-55	25-50	25-50	15-45	15-30	NP-10
	8-60	CBV-SICL, CBX-CL, GRV-SIL, GRX-SICL	GC	A-2-4, A-7-6, A-2-7	0-5	0-40	15-75	10-70	10-70	10-65	25-45	7-20
74639:												
Waben-----	0-5	GRX-SIL	GM	A-1, A-2	0-5	0-25	15-40	10-35	5-25	5-25	10-25	NP-7
	5-21	GR-SIL, GR-L, GRV-SIL	GM	A-1, A-2, A-4	0-5	0-10	20-55	15-50	10-50	10-45	10-25	NP-7
	21-60	GRX-SICL, GRV-SIL	GC	A-1, A-2-4, A-4, A-2-6	0-5	0-10	15-55	10-50	5-50	5-45	20-40	5-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	Pct	
74640:					Pct	Pct						
Hootentown-----	0-7	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-95	25-35	3-15
	7-12	SIL	CL-ML	A-4, A-6	0	0	95-100	90-100	85-100	70-90	20-35	4-15
	12-32	SIL, SICL	CL-ML	A-4, A-6	0	0	90-100	90-100	85-95	70-90	25-45	7-20
	32-60	SIL, SICL, GR- SICL, CL	CL	A-6	0	0	90-100	85-100	55-100	50-90	25-45	10-20
75401:												
Horsecreek-----	0-9	SIL	CL-ML	A-4	0	0	90-100	85-100	45-95	45-90	21-35	4-15
	9-19	SIL	CL-ML	A-4	0	0	95-100	90-100	45-100	45-90	20-35	4-15
	19-60	SIL, SICL	CL	A-6	0	0	95-100	90-100	45-100	45-90	30-45	10-20
Jamesfin-----	0-5	SIL	CL-ML	A-4, A-6	0	0	90-100	85-100	45-95	45-90	20-35	4-15
	5-60	SIL, SICL	CL-ML	A-4, A-6	0	0	100	95-100	85-100	75-95	20-40	4-20
75402:												
Pinerun-----	0-7	SIL	GC	A-4	0	0-5	90-100	85-100	45-95	45-90	20-30	5-10
	7-11	GR-SIL, SIL	GC	A-4	0	0	65-95	60-95	30-90	30-90	20-30	5-10
	11-31	GRV-SIL, GRX- SIL	GC	A-2-6	0	0-25	20-55	15-50	10-50	10-45	25-30	10-15
	31-60	GRV-L, GRX-SCL, GRX-L, GRV-SCL	SC	A-2-4, A-6	0	0-25	15-55	10-50	5-50	5-45	20-40	5-15
75403:												
Cedargap-----	0-6	GRV-L	GM	A-2-4, A-4	0	0-15	30-65	25-60	15-50	15-50	25-35	3-15
	6-60	GRX-SCL, GRV- SICL, GRX-CL, GRX-L	GC	A-2-6	0	5-20	15-50	10-45	5-40	5-40	30-40	10-20
Woolly-----	0-27	GRV-CL	GC	A-2-6, A-7-6, A-6	0	0-15	30-65	25-60	15-50	15-45	35-45	15-25
	27-50	GRX-CL, GRV-CL, GRX-SCL	GC	A-2-6, A-2-7	0	5-30	15-60	10-60	5-60	5-55	35-50	15-25
	50-80	UWB			---	---	---	---	---	---	---	---
75404:												
Pinerun-----	0-5	GRV-SIL	GC-GM	A-1, A-2-4, A-4	0	0-15	30-65	25-60	15-50	15-50	20-30	5-10
	5-38	GRX-CL, GRX- SICL, GRX-SIL, GRV-SIL	GC	A-2-6	0	0-25	15-55	10-50	10-50	5-45	30-40	10-20
	38-60	GRV-CL, GRX- SCL, GRV-SICL, GRX-CL	GC	A-2-7	0	0-25	20-45	15-40	10-40	10-35	30-45	10-25
75405:												
Pinerun-----	0-6	GRV-SIL	GC-GM	A-2-4, A-4	0	0-15	30-65	25-60	15-50	15-50	25-35	7-15
	6-11	GR-SIL, GRV-L, GRV-SIL	GC-GM	A-2, A-4	0	0-10	40-65	35-60	20-60	20-55	20-30	5-10
	11-36	GRV-SIL, GRX- SIL, GRX-L, GRV-L	GC	A-2-4, A-2-6	0	0-20	15-50	10-45	5-45	5-40	25-35	5-15
	36-60	GRX-SICL, GRX- C, GRX-L, GRX- SIL, GRV-CL	GC	A-2-7	0	0-25	20-45	15-40	10-40	10-35	30-50	10-20
Waben-----	0-5	GRV-SIL	GC-GM	A-1, A-2, A-4	0	0-15	30-65	25-60	15-50	15-50	10-25	NP-7
	5-12	GRV-SIL, GR-SIL	GC-GM	A-1, A-2, A-4	0	0-10	45-65	40-60	20-60	20-55	15-20	NP-5
	12-60	GRX-SIL, GRX-L, GRV-SIL	GC	A-4, A-2-4	0	0-50	30-90	25-85	15-85	15-80	15-30	NP-10

Table 17.--Engineering Index Properties--Continued

[illegible]

Table 18.--Physical and Chemical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist	Saturated	Available	Cation	Effective	Soil	Linear	Organic	Erosion factors			Wind	Wind
					bulk density	hydraulic conductivity	water capacity	exchange capacity	exchange capacity				reaction	extensi- bility	matter	Kw	Kf
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
70030:																	
Noark-----	0-3	5-15	72-88	10-25	1.20-1.40	4.00-14.00	0.10-0.12	---	10-30	4.5-6.5	0.0-2.9	1.0-7.0	.10	.43	3	8	0
	3-8	5-15	50-80	10-25	1.25-1.45	4.00-14.00	0.10-0.16	---	5.0-20	4.5-6.5	0.0-2.9	1.0-3.0	.15	.43			
	8-16	5-15	40-80	20-40	1.30-1.50	4.00-14.00	0.10-0.14	---	5.0-20	3.5-5.5	0.0-2.9	0.5-1.0	.17	.37			
	16-60	1-15	5-40	45-85	1.35-1.55	4.00-14.00	0.03-0.18	---	20-40	3.5-5.5	3.0-5.9	0.0-0.5	.10	.32			
Clarksville----	0-9	2-11	80-90	9-12	1.20-1.40	14.00-42.00	0.07-0.14	---	4.0-8.0	3.5-6.5	0.0-2.9	1.0-9.5	.15	.37	3	8	0
	9-33	2-20	40-73	14-35	1.30-1.50	14.00-42.00	0.06-0.10	---	8.0-12	3.5-6.0	0.0-2.9	0.0-0.5	.15	.43			
	33-60	2-40	5-40	40-75	1.35-1.60	4.00-14.00	0.02-0.08	---	12-22	3.5-5.5	3.0-6.0	0.0-0.5	.05	.28			
70031:																	
Hailey-----	0-10	2-20	70-85	5-12	1.10-1.40	42.00-141.00	0.05-0.14	---	3.0-20	5.1-6.0	0.0-2.9	0.5-5.0	.05	.28	3	8	0
	10-60	5-45	50-80	5-23	1.20-1.45	42.00-141.00	0.02-0.11	---	3.0-7.0	4.5-6.0	0.0-2.9	0.0-0.5	.05	.43			
Rueter-----	0-2	5-45	50-80	5-20	1.20-1.40	14.00-42.00	0.09-0.15	1.0-15	---	5.1-6.5	0.0-2.9	3.0-6.0	.15	.37	3	8	0
	2-8	5-50	50-90	5-20	1.25-1.45	14.00-42.00	0.09-0.15	1.0-15	---	5.1-6.5	0.0-2.9	1.0-3.0	.15	.43			
	8-48	5-50	40-80	8-30	1.30-1.50	14.00-42.00	0.04-0.07	2.0-12	---	4.5-6.5	0.0-2.9	0.0-1.0	.05	.43			
	48-71	2-40	5-40	40-80	1.35-1.55	4.00-14.00	0.02-0.05	---	10-32	4.5-6.0	3.0-5.9	0.0-0.5	.05	.28			
70032:																	
Tonti-----	0-10	2-10	80-90	2-12	1.20-1.45	4.00-14.00	0.16-0.20	5.0-15	---	5.6-6.5	0.0-2.9	1.0-3.0	.28	.43	4	5	56
	10-27	2-40	40-80	20-35	1.25-1.50	4.00-14.00	0.12-0.18	5.0-15	10-25	3.5-6.5	0.0-2.9	0.5-1.0	.20	.37			
	27-38	2-40	40-80	18-35	1.70-1.90	0.42-1.40	0.02-0.08	---	10-25	3.5-5.0	0.0-2.9	0.0-0.5	.10	.37			
	38-60	2-40	5-40	40-80	1.35-1.55	4.00-14.00	0.02-0.05	---	20-40	3.5-5.0	3.0-5.9	0.0-0.5	.10	.32			
70033:																	
Moko-----	0-5	2-20	40-70	27-35	1.25-1.45	4.00-14.00	0.08-0.13	15-40	---	6.6-8.4	0.0-2.9	4.0-8.0	.24	.43	1	8	0
	5-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---	---	---	
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---
70034:																	
Moko-----	0-7	20-45	20-50	18-35	1.25-1.45	4.00-14.00	0.07-0.13	15-40	---	6.6-8.4	0.0-2.9	4.0-8.0	.05	.24	1	8	0
	7-14	20-60	20-50	18-35	1.30-1.50	4.00-14.00	0.03-0.14	15-40	---	6.6-8.4	0.0-2.9	2.0-6.0	.05	.24			
	14-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Blueye-----	0-6	2-20	40-70	27-32	1.20-1.40	4.00-14.00	0.10-0.16	12-35	---	6.6-7.8	0.0-2.9	2.0-9.0	.10	.32	2	8	0
	6-10	2-45	40-80	15-35	1.25-1.45	4.00-14.00	0.08-0.20	12-30	---	6.6-8.4	0.0-2.9	0.5-5.0	.24	.43			
	10-30	2-20	30-60	30-65	1.30-1.50	0.42-1.40	0.04-0.12	25-40	---	6.6-8.4	6.0-8.9	0.1-3.0	.20	.32			
	30-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
													Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
70035:																	
Sonsac-----	0-2	2-40	50-80	8-20	1.20-1.40	4.00-14.00	0.13-0.20	---	8.0-30	5.1-7.3	0.0-2.9	2.0-10	.15	.28	2	8	0
	2-6	2-35	50-80	12-27	1.25-1.45	4.00-14.00	0.12-0.22	---	3.0-15	5.1-7.3	0.0-2.9	0.5-4.0	.20	.43			
	6-17	2-30	45-80	20-40	1.30-1.50	4.00-14.00	0.06-0.14	---	10-50	5.1-7.3	6.0-8.9	0.5-2.0	.15	.43			
	17-38	2-40	5-40	45-75	1.30-1.60	4.00-14.00	0.05-0.10	19-50	---	5.1-7.3	6.0-8.9	0.0-2.0	.05	.28			
	38-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Gobbler-----	0-3	2-35	50-80	14-27	1.20-1.40	14.00-42.00	0.12-0.17	---	10-25	4.5-6.5	0.0-2.9	2.0-12	.15	.37	3	8	0
	3-9	2-30	50-80	16-25	1.25-1.45	4.00-14.00	0.09-0.15	---	8.0-20	4.5-6.5	0.0-2.9	0.5-4.0	.10	.43			
	9-16	2-40	40-80	18-40	1.30-1.50	4.00-14.00	0.12-0.15	---	10-30	4.5-6.0	3.0-5.9	0.1-2.0	.15	.43			
	16-46	2-40	5-40	40-72	1.35-1.55	4.00-14.00	0.04-0.10	15-45	---	5.1-7.3	3.0-5.9	0.1-1.0	.15	.28			
	46-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
70036:																	
Sonsac-----	0-3	2-40	50-80	8-20	1.20-1.40	4.00-14.00	0.13-0.20	8.0-30	---	5.1-7.3	0.0-2.9	2.0-8.0	.15	.28	2	8	0
	3-20	2-30	50-80	20-40	1.25-1.50	4.00-14.00	0.06-0.11	---	14-50	5.1-7.3	6.0-8.9	0.5-2.0	.10	.43			
	20-32	2-40	2-40	45-75	1.30-1.60	4.00-14.00	0.05-0.10	25-50	---	5.1-7.3	6.0-8.9	0.0-2.0	.15	.28			
	32-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Gobbler-----	0-5	2-35	50-80	14-27	1.20-1.40	14.00-42.00	0.08-0.12	10-25	---	5.1-7.3	0.0-2.9	2.0-12	.10	.37	3	8	0
	5-15	2-40	50-80	10-25	1.25-1.45	14.00-42.00	0.08-0.12	7.0-20	---	5.1-6.5	0.0-2.9	0.5-4.0	.10	.43			
	15-21	2-50	20-80	18-54	1.30-1.50	4.00-14.00	0.06-0.17	10-30	---	5.1-6.5	3.0-5.9	0.1-2.0	.15	.43			
	21-47	2-40	2-40	40-72	1.35-1.55	4.00-14.00	0.02-0.08	15-45	---	5.1-7.8	3.0-5.9	0.1-1.0	.10	.28			
	47-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
70037:																	
Sonsac-----	0-3	2-40	50-80	8-20	1.20-1.40	4.00-14.00	0.07-0.14	8.0-30	---	5.1-7.3	0.0-2.9	2.0-10	.10	.37	2	8	0
	3-15	2-35	50-80	12-25	1.25-1.45	4.00-14.00	0.06-0.13	3.0-15	---	5.1-7.3	0.0-2.9	0.5-4.0	.10	.43			
	15-36	2-40	2-40	45-75	1.35-1.55	4.00-14.00	0.02-0.08	19-50	---	5.1-7.3	3.0-5.9	0.0-2.0	.05	.28			
	36-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Rueter-----	0-5	2-45	50-80	5-20	1.20-1.40	14.00-42.00	0.04-0.15	---	6.0-15	4.5-6.5	0.0-2.9	0.5-5.5	.05	.37	3	8	0
	5-12	2-40	50-80	10-25	1.25-1.45	14.00-42.00	0.04-0.14	---	4.0-10	4.5-6.5	0.0-2.9	0.5-1.5	.10	.43			
	12-35	2-45	40-80	15-30	1.30-1.50	14.00-42.00	0.04-0.14	2.0-12	---	4.5-7.3	0.0-2.9	0.0-0.8	.10	.43			
	35-60	1-40	2-40	40-80	1.35-1.55	4.00-14.00	0.03-0.09	12-32	---	4.5-7.3	3.0-5.9	0.0-0.8	.20	.28			
70038:																	
Moko-----	0-5	2-20	40-70	27-35	1.25-1.50	4.00-14.00	0.08-0.14	15-43	---	6.6-7.8	0.0-2.9	8.0-12	.10	.28	1	8	0
	5-10	2-20	40-70	18-35	1.25-1.50	4.00-14.00	0.03-0.16	15-40	---	6.6-7.8	0.0-2.9	4.0-8.0	.15	.28			
	10-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind	
													Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
70050:																	
Rueter-----	0-7	2-45	50-80	5-20	1.20-1.40	14.00-42.00	0.09-0.15	6.0-15	---	4.5-6.5	0.0-2.9	0.5-4.5	.15	.37	3	8	0
	7-11	2-40	50-80	10-25	1.25-1.45	14.00-42.00	0.04-0.14	4.0-10	---	4.5-6.5	0.0-2.9	0.5-1.0	.17	.43			
	11-28	2-45	40-80	15-30	1.30-1.50	4.00-14.00	0.04-0.07	2.0-12	---	4.5-7.3	0.0-2.9	0.0-0.5	.10	.43			
	28-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.03-0.06	---	12-32	4.5-7.3	3.0-5.9	0.0-0.5	.10	.28			
Goss-----	0-6	2-40	50-80	10-27	1.20-1.40	14.00-42.00	0.06-0.17	---	10-25	4.5-6.5	0.0-2.9	1.0-5.0	.10	.37	3	8	0
	6-18	2-40	40-80	20-30	1.25-1.45	14.00-42.00	0.06-0.10	5.0-15	---	4.5-6.5	0.0-2.9	0.0-2.0	.10	.43			
	18-60	2-40	10-70	35-80	1.35-1.55	4.00-14.00	0.04-0.09	---	9.0-25	4.5-7.3	3.0-5.9	0.0-1.0	.10	.37			
70051:																	
Hailey-----	0-10	2-15	80-90	5-15	1.10-1.40	42.00-141.00	0.05-0.14	---	3.0-20	5.1-6.0	0.0-2.9	0.5-5.0	.05	.28	3	8	0
	10-60	5-45	50-80	5-23	1.20-1.45	42.00-141.00	0.02-0.11	---	3.0-7.0	4.5-6.0	0.0-2.9	0.0-0.5	.05	.43			
Rueter-----	0-2	5-45	50-80	5-20	1.20-1.40	14.00-42.00	0.09-0.15	1.0-15	---	5.1-6.5	0.0-2.9	3.0-6.0	.15	.37	3	8	0
	2-8	2-45	50-90	5-20	1.25-1.45	14.00-42.00	0.09-0.15	1.0-15	---	5.1-6.5	0.0-2.9	1.0-3.0	.15	.43			
	8-48	5-50	40-80	8-30	1.30-1.50	14.00-42.00	0.04-0.07	2.0-12	---	4.5-6.5	0.0-2.9	0.0-1.0	.05	.43			
	48-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.02-0.05	---	10-32	4.5-6.0	3.0-5.9	0.0-0.5	.05	.28			
71252:																	
Britwater-----	0-10	10-40	50-80	8-25	1.25-1.45	4.00-14.00	0.14-0.20	---	5.0-15	4.5-6.5	0.0-2.9	1.0-2.0	.24	.37	5	5	56
	10-27	10-30	50-80	18-30	1.30-1.50	4.00-14.00	0.12-0.18	5.0-20	---	4.5-6.5	0.0-2.9	0.1-1.0	.28	.43			
	27-50	15-45	30-50	25-40	1.35-1.55	4.00-14.00	0.08-0.16	---	10-25	4.5-6.0	0.0-2.9	0.0-0.5	.15	.32			
	50-60	2-30	30-70	27-60	1.35-1.55	4.00-14.00	0.08-0.16	---	10-25	4.5-6.0	3.0-5.9	0.0-0.5	.20	.43			
73070:																	
Sowcoon-----	0-9	1-20	50-85	10-27	1.25-1.45	4.00-14.00	0.18-0.24	---	10-22	4.5-7.3	0.0-2.9	1.0-5.0	.37	.37	5	5	56
	9-28	1-20	50-85	12-27	1.30-1.50	4.00-14.00	0.14-0.22	8.0-18	---	4.5-6.5	3.0-5.9	0.1-2.0	.43	.43			
	28-45	1-20	50-80	13-50	1.30-1.50	1.40-4.00	0.06-0.22	---	8.0-28	4.5-5.5	3.0-5.9	0.2-2.5	.43	.43			
	45-60	1-20	50-80	13-50	1.70-1.90	0.42-1.40	0.03-0.11	---	8.0-28	4.5-5.5	3.0-5.9	0.2-2.5	.43	.43			
73113:																	
Scholten-----	0-8	2-40	50-80	8-27	1.20-1.40	4.00-14.00	0.10-0.21	6.0-16	---	4.5-7.3	0.0-2.9	0.5-4.0	.15	.37	2	8	0
	8-19	2-50	40-80	12-40	1.25-1.45	4.00-14.00	0.07-0.14	10-21	---	3.5-7.3	0.0-2.9	0.5-1.0	.15	.43			
	19-34	2-40	40-80	20-35	1.60-1.90	0.01-0.42	0.01-0.05	---	10-18	3.5-6.0	3.0-5.9	0.0-0.5	.05	.43			
	34-60	1-40	2-40	40-80	1.35-1.55	4.00-14.00	0.01-0.05	---	18-40	3.5-5.0	3.0-5.9	0.0-0.5	.10	.28			
73114:																	
Captina-----	0-11	2-40	50-85	15-24	1.25-1.45	4.00-14.00	0.21-0.24	10-30	---	4.5-6.5	0.0-2.9	1.0-3.0	.37	.43	3	5	56
	11-26	2-45	40-80	20-40	1.30-1.50	4.00-14.00	0.17-0.22	10-25	---	3.5-6.0	0.0-2.9	0.5-1.5	.32	.37			
	26-53	2-40	40-80	20-35	1.60-1.90	0.42-1.40	0.02-0.08	---	10-25	3.5-5.5	0.0-2.9	0.0-1.0	.10	.43			
	53-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.02-0.04	---	15-40	3.5-5.5	3.0-5.9	0.0-0.5	.15	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility	Wind erodi- bility
													Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct				group	index
73115:																	
Horneybuck-----	0-8	5-40	50-80	10-20	1.25-1.45	4.00-14.00	0.20-0.24	---	10-25	4.5-7.3	0.0-2.9	1.0-5.5	.28	.37	4	5	56
	8-24	5-45	40-80	15-35	1.30-1.50	4.00-14.00	0.11-0.22	---	10-20	4.5-7.3	0.0-2.9	0.1-1.5	.28	.43			
	24-40	5-40	40-80	20-35	1.40-1.60	1.40-4.20	0.10-0.21	---	10-15	4.5-5.5	0.0-2.9	0.1-0.5	.20	.43			
	40-60	5-40	40-60	20-50	1.35-1.55	1.40-4.20	0.02-0.18	---	10-20	4.5-5.0	3.0-5.9	0.1-0.5	.15	.37			
Tonti-----	0-10	2-10	80-90	5-12	1.30-1.50	4.00-14.00	0.16-0.20	5.0-15	---	5.6-6.5	0.0-2.9	1.0-3.0	.28	.43	4	5	56
	10-28	2-40	40-80	20-35	1.30-1.50	4.00-14.00	0.12-0.18	5.0-15	10-25	3.5-6.5	0.0-2.9	0.5-1.0	.20	.37			
	28-57	2-40	40-80	18-35	1.60-1.90	0.42-1.40	0.02-0.08	---	10-25	3.5-5.0	0.0-2.9	0.0-0.5	.10	.37			
	57-60	2-40	5-40	40-80	1.35-1.55	4.00-14.00	0.01-0.03	---	20-40	3.5-5.0	3.0-5.9	0.0-0.5	.10	.32			
73116:																	
Pomme-----	0-7	5-30	50-75	15-25	1.25-1.45	4.00-14.00	0.16-0.21	5.0-12	5.0-10	5.6-7.3	0.0-2.9	1.0-2.0	.32	.37	5	5	56
	7-19	5-25	45-65	22-35	1.30-1.50	4.00-14.00	0.14-0.21	8.0-16	5.0-15	5.6-7.3	0.0-2.9	0.2-1.0	.32	.37			
	19-57	5-25	40-60	28-40	1.35-1.55	4.00-14.00	0.08-0.14	8.0-16	5.0-15	5.1-7.3	0.0-2.9	0.1-1.0	.28	.32			
	57-86	4-20	15-35	45-75	1.35-1.55	4.00-14.00	0.04-0.14	10-30	10-25	4.5-7.3	3.0-5.9	0.1-1.0	.05	.10			
73117:																	
Clarksville-----	0-9	2-40	50-85	9-20	1.25-1.45	14.00-42.00	0.07-0.14	---	4.0-15	3.5-6.5	0.0-2.9	1.0-9.5	.10	.37	3	8	0
	9-32	2-35	50-85	15-35	1.30-1.50	14.00-42.00	0.06-0.10	---	8.0-12	3.5-6.0	0.0-2.9	0.0-0.5	.10	.43			
	32-60	2-20	30-60	40-75	1.35-1.55	4.00-14.00	0.02-0.08	---	12-22	3.5-5.5	3.0-6.0	0.0-0.5	.02	.28			
Scholten-----	0-7	2-12	80-90	8-12	1.25-1.45	14.00-42.00	0.10-0.19	---	6.0-16	4.5-7.3	0.0-2.9	0.5-4.0	.15	.37	2	8	0
	7-24	2-45	40-80	12-40	1.30-1.50	4.00-14.00	0.07-0.14	---	11-21	3.5-6.0	0.0-2.9	0.5-1.0	.10	.43			
	24-30	2-40	40-80	20-35	1.60-1.90	0.01-0.42	0.01-0.05	---	10-18	3.5-5.0	3.0-5.9	0.0-0.5	.10	.43			
	30-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.01-0.04	---	20-40	3.5-5.0	3.0-5.9	0.0-0.5	.15	.28			
Hailey-----	0-15	2-45	50-85	5-15	1.20-1.40	42.00-141.00	0.05-0.14	---	---	5.1-7.3	0.0-2.9	0.5-4.5	.10	.37	3	8	0
	15-60	2-40	50-80	10-23	1.25-1.45	42.00-141.00	0.02-0.11	---	---	4.5-7.3	0.0-2.9	0.1-0.5	.05	.43			
73118:																	
Rueter-----	0-7	2-45	50-80	5-20	1.20-1.40	14.00-42.00	0.09-0.15	6.0-15	---	4.5-6.5	0.0-2.9	0.5-4.5	.15	.37	3	8	0
	7-11	2-40	50-85	10-25	1.25-1.45	14.00-42.00	0.04-0.14	4.0-10	---	4.5-6.5	0.0-2.9	0.5-1.0	.17	.43			
	11-28	2-45	40-80	15-30	1.30-1.50	4.00-14.00	0.04-0.07	2.0-12	---	4.5-7.3	0.0-2.9	0.0-0.5	.10	.43			
	28-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.03-0.06	---	12-32	4.5-7.3	3.0-5.9	0.0-0.5	.10	.28			
Goss-----	0-6	2-40	50-80	10-27	1.20-1.40	14.00-42.00	0.06-0.17	---	10-25	4.5-6.5	0.0-2.9	1.0-5.0	.10	.37	3	8	0
	6-18	2-40	40-80	20-30	1.25-1.45	14.00-42.00	0.06-0.10	5.0-15	---	4.5-6.5	0.0-2.9	0.0-2.0	.10	.43			
	18-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.04-0.09	---	9.0-25	4.5-7.3	3.0-5.9	0.0-1.0	.10	.37			
73119:																	
Rueter-----	0-3	2-45	50-85	5-20	1.20-1.40	14.00-42.00	0.04-0.15	6.0-15	---	4.5-6.5	0.0-2.9	0.5-5.5	.10	.37	3	8	0
	3-14	2-40	50-90	10-25	1.25-1.45	14.00-42.00	0.04-0.14	---	4.0-10	4.5-6.5	0.0-2.9	0.5-1.0	.15	.43			
	14-29	2-35	50-80	15-30	1.30-1.50	4.00-14.00	0.04-0.07	---	2.0-12	4.5-7.3	0.0-2.9	0.0-0.5	.10	.43			
	29-60	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.03-0.06	12-32	---	4.5-7.3	3.0-5.9	0.0-0.5	.05	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind	
													Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73119:																	
Hailey-----	0-10	2-20	50-85	5-12	1.20-1.40	42.00-141.00	0.05-0.14	---	3.0-20	5.1-6.0	0.0-2.9	0.5-5.0	.05	.28	3	8	0
	10-60	2-45	50-80	5-23	1.25-1.45	42.00-141.00	0.02-0.11	---	3.0-7.0	4.5-6.0	0.0-2.9	0.0-0.5	.05	.43			
73120:																	
Rueter-----	0-4	2-45	50-85	5-20	1.20-1.40	14.00-42.00	0.04-0.15	6.0-15	---	4.5-6.5	0.0-2.9	0.5-5.5	.10	.37	3	8	0
	4-11	2-40	50-85	10-25	1.25-1.45	14.00-42.00	0.04-0.14	4.0-10	---	4.5-6.5	0.0-2.9	0.5-1.0	.15	.43			
	11-44	2-45	40-80	15-30	1.30-1.50	14.00-42.00	0.04-0.14	2.0-12	---	4.5-7.3	0.0-2.9	0.0-0.5	.15	.43			
	44-60	2-20	30-60	40-80	1.35-1.55	4.00-14.00	0.03-0.06	12-32	---	4.5-7.3	3.0-5.9	0.0-0.5	.10	.28			
Gasconade-----	0-8	2-20	40-60	35-50	1.25-1.45	4.00-14.00	0.05-0.14	15-45	---	6.1-7.8	3.0-5.9	2.0-12	.10	.32	1	8	0
	8-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---	---		
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---
73121:																	
Scholten-----	0-10	2-40	50-85	8-27	1.20-1.40	4.00-14.00	0.10-0.21	6.0-16	---	4.5-7.3	0.0-2.9	0.5-4.0	.32	.37	2	8	0
	10-27	2-45	40-80	12-40	1.30-1.50	4.00-14.00	0.07-0.14	10-21	---	3.5-6.0	0.0-2.9	0.5-1.0	.17	.43			
	27-34	2-40	40-80	20-35	1.60-1.90	0.01-0.42	0.01-0.05	---	10-18	3.5-6.0	3.0-5.9	0.0-0.5	.05	.43			
	34-60	1-40	2-40	40-80	1.35-1.55	4.00-14.00	0.01-0.03	---	18-40	3.5-5.0	3.0-5.9	0.0-0.5	.05	.28			
Tonti-----	0-7	2-10	80-90	5-12	1.25-1.45	4.00-14.00	0.16-0.20	5.0-15	---	5.6-6.5	0.0-2.9	1.0-3.0	.32	.37	3	5	56
	7-27	2-40	40-80	20-35	1.30-1.50	4.00-14.00	0.12-0.19	5.0-15	---	3.5-6.5	0.0-2.9	0.5-1.0	.32	.43			
	27-47	2-40	40-80	18-35	1.60-1.90	0.42-1.40	0.02-0.08	---	10-25	3.5-5.0	0.0-2.9	0.0-0.5	.28	.43			
	47-60	2-20	30-70	30-80	1.35-1.55	4.00-14.00	0.02-0.08	---	15-40	3.5-5.0	3.0-5.9	0.0-0.5	.28	.43			
73122:																	
Gasconade-----	0-6	2-20	40-60	40-50	1.25-1.45	4.00-14.00	0.04-0.07	15-70	---	6.1-7.8	3.0-5.9	2.0-9.0	.05	.28	1	8	0
	6-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---	---		
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---
73123:																	
Mano-----	0-4	5-45	50-80	3-18	1.25-1.45	14.00-42.00	0.13-0.18	5.0-15	---	4.5-7.3	0.0-2.9	2.0-8.0	.24	.37	4	8	0
	4-10	5-45	50-80	3-15	1.25-1.45	4.00-14.00	0.08-0.16	5.0-12	---	4.5-6.5	0.0-2.9	0.5-4.0	.24	.43			
	10-29	2-40	40-80	18-35	1.30-1.50	4.00-14.00	0.04-0.14	8.0-16	---	4.5-6.5	0.0-2.9	0.2-1.0	.15	.43			
	29-72	2-40	2-40	45-80	1.30-1.50	0.42-1.40	0.06-0.12	20-30	---	5.6-8.4	6.0-8.9	0.1-0.8	.28	.28			
Ocie-----	0-19	2-40	50-85	10-20	1.25-1.45	4.00-14.00	0.12-0.23	---	6.0-14	4.5-6.5	0.0-2.9	0.5-8.0	.15	.37	3	8	0
	19-39	2-20	40-70	27-35	1.25-1.45	1.40-4.00	0.02-0.08	7.0-18	---	4.5-6.5	3.0-5.9	0.0-1.0	.10	.43			
	39-52	2-40	2-40	50-80	1.30-1.50	0.42-1.40	0.07-0.10	20-50	---	5.1-7.3	6.0-8.9	0.0-1.0	.15	.28			
	52-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---		

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct	Kw	Kf	T	
73124:																	
Alred-----	0-8	5-40	50-85	8-27	1.20-1.40	4.00-14.00	0.09-0.13	---	7.0-12	5.1-7.3	0.0-2.9	1.0-2.0	.15	.37	4	8	0
	8-22	5-50	30-80	11-27	1.25-1.45	4.00-14.00	0.04-0.08	---	5.0-12	5.1-7.3	0.0-2.9	0.2-1.0	.10	.43			
	22-31	2-40	40-80	20-35	1.30-1.50	4.00-14.00	0.09-0.13	---	8.0-13	4.5-7.3	0.0-2.9	0.0-1.0	.15	.43			
	31-60	2-40	2-40	45-85	1.30-1.50	0.42-1.40	0.05-0.10	---	14-27	4.5-7.3	6.0-9.0	0.0-0.5	.15	.28			
Ocie-----	0-3	5-40	50-80	10-20	1.20-1.45	4.00-14.00	0.12-0.23	---	6.0-14	4.5-6.5	0.0-2.9	0.5-8.0	.24	.37	3	8	0
	3-8	5-45	50-80	5-20	1.25-1.45	4.00-14.00	0.12-0.23	6.0-14	---	4.5-6.5	0.0-2.9	0.5-4.0	.15	.43			
	8-23	5-35	50-80	15-27	1.30-1.50	4.00-14.00	0.12-0.23	5.0-15	---	4.5-6.5	0.0-2.9	0.0-1.0	.15	.32			
	23-45	5-40	2-40	50-80	1.30-1.50	0.42-1.40	0.07-0.10	15-50	---	5.1-7.3	6.0-8.9	0.0-1.0	.20	.28			
	45-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
73125:																	
Knobby-----	0-6	5-45	50-80	5-18	1.30-1.50	4.00-14.00	0.05-0.14	3.0-25	---	6.6-8.4	0.0-2.9	2.0-8.0	.05	.28	1	8	0
	6-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---
73126:																	
Knobby-----	0-4	5-45	50-80	5-18	1.30-1.50	4.00-14.00	0.05-0.16	3.0-25	---	6.6-8.4	0.0-2.9	2.0-8.0	.10	.28	1	8	0
	4-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Rock outcrop----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---	---	---	---
73127:																	
Gobbler-----	0-2	2-35	50-80	14-27	1.20-1.40	14.00-42.00	0.12-0.20	10-25	---	5.1-6.5	0.0-2.9	2.0-12	.24	.37	3	8	0
	2-16	2-30	50-80	18-32	1.25-1.45	4.00-14.00	0.09-0.18	---	10-25	5.1-6.5	0.0-2.9	0.5-4.0	.28	.43			
	16-43	2-40	2-40	35-45	1.30-1.50	4.00-14.00	0.03-0.18	10-30	---	5.1-7.3	3.0-5.9	0.1-2.0	.05	.32			
	43-49	2-40	2-40	40-80	1.35-1.55	4.00-14.00	0.04-0.10	15-45	---	5.1-7.8	3.0-5.9	0.1-1.0	.15	.28			
	49-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
Sonsac-----	0-2	2-40	50-80	8-20	1.20-1.40	4.00-14.00	0.06-0.19	8.0-30	---	4.5-6.0	0.0-2.9	2.0-8.0	.24	.37	2	8	0
	2-13	2-35	50-80	12-27	1.25-1.45	4.00-14.00	0.06-0.19	---	3.0-13	4.5-6.0	0.0-2.9	0.5-2.0	.28	.43			
	13-35	2-20	30-70	35-60	1.35-1.55	4.00-14.00	0.06-0.11	---	10-50	4.5-6.5	6.0-8.9	0.5-2.0	.05	.32			
	35-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
73128:																	
Gobbler-----	0-3	2-35	50-80	14-27	1.20-1.40	14.00-42.00	0.12-0.17	10-25	---	5.1-6.5	0.0-2.9	2.0-12	.17	.37	3	8	0
	3-13	5-40	40-80	18-32	1.25-1.45	14.00-42.00	0.09-0.15	---	10-25	5.1-6.5	0.0-2.9	0.5-4.0	.15	.43			
	13-29	2-40	5-60	30-45	1.30-1.50	4.00-14.00	0.03-0.18	10-30	---	5.1-6.5	3.0-5.9	0.1-2.0	.05	.43			
	29-55	2-40	5-50	40-80	1.35-1.55	4.00-14.00	0.04-0.10	15-45	---	5.1-7.8	3.0-5.9	0.1-1.0	.10	.28			
	55-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind	
													Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73128:																	
Sonsac-----	0-5	5-40	50-80	8-20	1.20-1.40	4.00-14.00	0.13-0.20	8.0-30	---	5.1-7.3	0.0-2.9	2.0-8.0	.15	.28	2	8	0
	5-10	5-35	50-80	12-27	1.25-1.45	4.00-14.00	0.12-0.22	3.0-15	---	5.1-7.3	0.0-2.9	0.5-4.0	.20	.43			
	10-13	5-50	30-80	20-40	1.30-1.50	4.00-14.00	0.06-0.11	---	14-50	5.1-7.3	6.0-8.9	0.5-2.0	.10	.43			
	13-27	2-40	2-40	45-75	1.35-1.55	4.00-14.00	0.05-0.10	25-50	---	5.1-7.3	6.0-8.9	0.0-2.0	.15	.28			
	27-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
73129:																	
Gasconade-----	0-6	20-40	20-50	35-40	1.25-1.45	4.00-14.00	0.10-0.16	15-50	---	6.1-7.8	3.0-5.9	2.0-12	.15	.24	1	8	0
	6-12	20-40	20-50	35-40	1.30-1.50	1.40-4.00	0.05-0.12	15-40	---	6.1-7.8	3.0-5.9	0.5-9.0	.05	.24			
	12-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
73130:																	
Gasconade-----	0-6	18-28	43-52	27-40	1.25-1.45	4.00-14.00	0.05-0.15	15-34	---	6.1-7.8	3.0-5.9	2.0-12	.10	.24	1	8	0
	6-15	5-40	5-50	35-60	1.30-1.50	1.40-4.00	0.04-0.13	15-35	---	6.1-7.8	3.0-5.9	1.0-6.0	.10	.28			
	15-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
73131:																	
Gasconade-----	0-6	2-20	40-60	40-45	1.25-1.45	4.00-14.00	0.05-0.15	15-34	---	6.1-7.8	3.0-5.9	2.0-12	.10	.28	1	8	0
	6-16	2-40	2-40	40-60	1.30-1.50	1.40-4.00	0.04-0.13	15-35	---	6.1-7.8	3.0-5.9	1.0-6.0	.05	.28			
	16-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
73132:																	
Gasconade-----	0-9	2-20	40-60	35-40	1.25-1.45	4.00-14.00	0.10-0.12	15-50	---	6.6-7.8	3.0-5.9	4.0-15	.10	.28	1	8	0
	9-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
73133:																	
Alred-----	0-9	25-50	30-50	8-27	1.20-1.45	4.00-14.00	0.10-0.19	6.0-12	---	5.1-7.3	0.0-2.9	1.0-2.0	.15	.32	4	8	0
	9-21	25-50	30-50	11-27	1.25-1.45	4.00-14.00	0.04-0.12	5.0-12	---	5.1-7.3	0.0-2.9	0.2-1.0	.10	.32			
	21-39	45-70	5-50	20-35	1.40-1.60	4.00-14.00	0.04-0.12	7.0-13	---	4.5-7.3	0.0-2.9	0.0-1.0	.10	.32			
	39-60	5-40	5-40	45-85	1.30-1.60	0.42-1.40	0.05-0.10	14-27	---	4.5-7.3	6.0-9.0	0.0-0.5	.24	.28			
Ocie-----																	
	0-3	2-40	50-80	7-20	1.20-1.45	4.00-14.00	0.12-0.23	6.0-18	---	4.5-6.5	0.0-2.9	0.5-8.0	.32	.37	3	8	0
	3-15	2-35	50-80	11-27	1.25-1.45	4.00-14.00	0.12-0.23	---	8.0-15	4.5-6.0	0.0-2.9	0.0-1.0	.37	.43			
	15-29	5-40	20-70	27-35	1.30-1.50	1.40-4.00	0.02-0.08	12-18	---	4.5-6.0	3.0-5.9	0.0-1.0	.05	.32			
	29-45	2-40	5-60	50-80	1.30-1.50	0.42-1.40	0.07-0.10	25-50	---	5.1-7.3	6.0-8.9	0.0-1.0	.24	.28			
	45-80	---	---	---	---	0.01-0.42	---	---	---	---	---	---	---	---			
73134:																	
Alred-----	0-12	5-40	50-80	10-27	1.20-1.45	4.00-14.00	0.07-0.18	7.0-12	---	5.1-7.3	0.0-2.9	1.0-4.0	.15	.37	4	8	0
	12-18	5-35	50-80	15-27	1.25-1.45	4.00-14.00	0.07-0.11	6.0-12	---	5.1-7.3	0.0-2.9	0.5-1.0	.10	.43			
	18-30	23-50	30-50	20-27	1.30-1.50	4.00-14.00	0.06-0.10	8.0-13	---	5.6-7.3	0.0-2.9	0.2-1.0	.05	.37			
	30-61	2-40	5-40	45-85	1.30-1.50	0.42-1.40	0.08-0.12	14-35	---	4.5-7.3	6.0-8.9	0.2-0.8	.17	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind	
													Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73134:																	
Ocie-----	0-7	5-40	50-80	10-20	1.20-1.40	4.00-14.00	0.12-0.23	---	6.0-14	4.5-6.5	0.0-2.9	0.5-8.0	.17	.37	3	8	0
	7-18	5-35	50-80	15-27	1.25-1.45	4.00-14.00	0.12-0.23	5.0-15	---	4.5-6.0	0.0-2.9	0.0-1.0	.28	.43			
	18-33	2-20	40-70	25-35	1.30-1.50	1.40-4.00	0.02-0.08	7.0-18	---	4.5-6.5	3.0-5.9	0.0-1.0	.10	.43			
	33-46	2-40	5-40	50-80	1.30-1.50	0.42-1.40	0.07-0.10	20-50	---	5.1-7.3	6.0-8.9	0.0-1.0	.17	.28			
	46-80	---	---	---	---	0.01-0.42	---	---	---	---	---	---	---	---			
Sonsac-----	0-4	5-50	50-80	8-20	1.20-1.40	4.00-14.00	0.13-0.20	8.0-30	---	5.1-7.3	0.0-2.9	2.0-8.0	.15	.28	3	8	0
	4-13	5-50	50-80	12-27	1.25-1.45	4.00-14.00	0.12-0.17	3.0-13	---	4.5-6.5	0.0-2.9	0.5-2.0	.17	.43			
	13-19	2-20	40-70	35-40	1.30-1.50	4.00-14.00	0.09-0.15	---	12-50	4.5-6.5	3.0-6.0	0.5-2.0	.10	.37			
	19-34	2-40	5-40	45-80	1.30-1.50	4.00-14.00	0.05-0.12	---	25-50	4.5-7.3	3.0-6.0	0.0-1.0	.15	.28			
	34-80	---	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---			
74638:																	
Waben-----	0-3	5-45	50-80	5-20	1.20-1.40	14.00-42.00	0.09-0.16	5.0-15	---	5.1-7.3	0.0-2.9	0.5-3.0	.17	.37	5	8	0
	3-8	5-45	50-80	5-20	1.25-1.45	14.00-42.00	0.09-0.13	5.0-15	---	5.1-6.5	0.0-2.9	0.5-2.0	.17	.43			
	8-60	5-50	30-70	15-35	1.30-1.50	14.00-42.00	0.05-0.15	5.0-15	---	5.1-6.5	0.0-2.9	0.2-1.0	.15	.43			
74639:																	
Waben-----	0-5	10-45	50-80	5-20	1.20-1.40	14.00-42.00	0.05-0.10	5.0-15	7.0-17	4.5-6.5	0.0-2.9	0.5-6.0	.05	.43	5	8	0
	5-21	10-50	30-80	5-20	1.25-1.45	14.00-42.00	0.05-0.13	5.0-15	7.0-17	5.1-6.5	0.0-2.9	0.5-2.0	.10	.43			
	21-60	5-45	40-80	15-35	1.30-1.50	14.00-42.00	0.05-0.15	5.0-15	7.0-17	4.5-6.5	0.0-2.9	0.1-1.0	.10	.43			
74640:																	
Hootentown-----	0-7	5-20	50-80	10-27	1.20-1.40	4.00-14.00	0.19-0.23	5.0-15	---	4.5-6.5	0.0-2.9	0.5-3.0	.37	.37	5	5	56
	7-12	5-20	50-80	10-27	1.25-1.45	4.00-14.00	0.18-0.22	5.0-15	---	4.5-6.5	0.0-2.9	0.5-1.0	.32	.32			
	12-32	5-20	40-80	15-35	1.25-1.45	4.00-14.00	0.14-0.20	5.0-15	---	4.5-6.5	0.0-2.9	0.2-0.6	.28	.32			
	32-60	5-30	40-80	15-35	1.30-1.50	4.00-14.00	0.13-0.18	5.0-15	---	4.5-6.5	0.0-2.9	0.2-0.6	.28	.32			
75401:																	
Horsecreek-----	0-9	2-20	50-85	10-27	1.20-1.40	4.00-14.00	0.21-0.24	8.0-16	---	5.6-7.3	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	9-19	1-20	50-85	10-27	1.20-1.40	4.00-14.00	0.21-0.24	8.0-16	---	5.6-7.3	0.0-2.9	1.0-2.0	.32	.32			
	19-60	1-20	50-85	18-35	1.20-1.50	4.00-14.00	0.17-0.22	8.0-16	---	5.6-7.3	0.0-2.9	0.5-2.0	.43	.43			
Jamesfin-----	0-5	5-20	50-80	10-27	1.20-1.40	4.00-14.00	0.21-0.24	8.0-20	---	5.6-7.8	0.0-2.9	1.0-6.0	.32	.32	5	5	56
	5-60	5-20	50-80	10-30	1.20-1.50	4.00-14.00	0.17-0.22	8.0-12	---	5.6-7.8	0.0-2.9	0.1-2.0	.43	.43			
75402:																	
Pinerun-----	0-7	5-35	50-80	12-25	1.20-1.40	14.00-42.00	0.19-0.23	8.0-18	10-20	5.6-7.3	0.0-2.9	2.0-6.0	.32	.37	5	8	0
	7-11	5-35	50-80	12-27	1.25-1.45	14.00-42.00	0.15-0.19	8.0-15	10-18	5.6-7.3	0.0-2.9	0.5-2.0	.28	.43			
	11-31	5-30	50-80	18-27	1.30-1.50	4.00-14.00	0.05-0.14	8.0-15	10-18	5.6-7.3	0.0-2.9	0.3-1.0	.15	.43			
	31-60	25-70	5-50	15-35	1.30-1.60	4.00-14.00	0.03-0.12	7.0-22	8.0-22	5.6-7.3	3.0-6.0	0.2-1.0	.05	.37			
75403:																	
Cedargap-----	0-6	25-50	30-50	15-27	1.20-1.45	4.00-14.00	0.05-0.12	7.0-40	---	5.6-7.3	0.0-2.9	1.0-15	.10	.32	5	8	0
	6-60	5-65	10-60	25-35	1.35-1.55	4.00-14.00	0.03-0.10	12-23	---	5.6-7.8	0.0-2.9	0.5-6.0	.10	.43			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors			Wind	
													Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
75403:																	
Woolly-----	0-27	20-45	20-50	27-35	1.25-1.45	4.00-14.00	0.03-0.18	18-35	21-40	6.1-7.3	0.0-2.9	4.0-13	.17	.24	3	8	0
	27-50	20-70	10-50	25-40	1.30-1.50	4.00-14.00	0.02-0.10	10-30	15-35	6.1-7.8	0.0-2.9	1.0-3.0	.20	.32			
	50-80	---	---	---	---	0.00-4.20	---	---	---	---	---	---	---	---			
75404:																	
Pinerun-----	0-5	5-35	50-80	12-25	1.20-1.40	14.00-42.00	0.11-0.18	8.0-18	15-20	5.1-7.3	0.0-2.9	2.0-6.0	.10	.32	5	8	0
	5-38	5-50	20-80	18-35	1.30-1.50	4.00-14.00	0.03-0.12	10-18	10-23	5.1-7.3	3.0-6.0	0.3-2.0	.10	.43			
	38-60	5-60	10-70	25-40	1.30-1.60	4.00-14.00	0.04-0.12	10-22	15-24	5.6-7.3	3.0-6.0	0.2-1.0	.10	.43			
75405:																	
Pinerun-----	0-6	5-35	50-70	12-25	1.20-1.40	14.00-42.00	0.11-0.16	8.0-18	15-20	5.6-7.3	0.0-2.9	2.0-6.0	.10	.32	5	8	0
	6-11	5-40	45-70	12-27	1.25-1.45	14.00-42.00	0.11-0.18	8.0-15	10-18	5.6-7.3	0.0-2.9	0.5-2.0	.10	.32			
	11-36	5-40	40-65	18-27	1.30-1.50	4.00-14.00	0.03-0.13	9.0-15	10-18	5.6-7.3	3.0-6.0	0.3-1.0	.10	.43			
	36-60	5-40	35-65	25-45	1.30-1.60	4.00-14.00	0.02-0.12	10-22	15-22	5.6-7.3	3.0-6.0	0.2-1.0	.10	.43			
Waben-----	0-5	5-45	50-80	5-20	1.20-1.40	14.00-42.00	0.11-0.16	5.0-15	---	5.1-6.5	0.0-2.9	0.5-4.0	.17	.37	5	8	0
	5-12	5-40	50-80	10-15	1.25-1.45	14.00-42.00	0.11-0.17	5.0-15	---	4.5-6.5	0.0-2.9	0.5-2.0	.17	.43			
	12-60	5-50	30-80	10-27	1.30-1.50	14.00-42.00	0.05-0.14	5.0-15	---	4.5-6.5	0.0-2.9	0.0-1.0	.15	.43			
99000.																	
Pits, quarries																	
99001.																	
Water																	
99005:																	
Landfills-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	---	---	---	---	8	0



Table 19.--Water Features

Map symbol and soil name	Hydro- logic group	Month	Water table			Ponding		Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
70050: Rueter-----	B	Jan-Dec	---	---	---	---	None	---	None
Goss-----	B	Jan-Dec	---	---	---	---	None	---	None
70051: Hailey-----	B	Jan-Dec	---	---	---	---	None	---	None
Rueter-----	B	Jan-Dec	---	---	---	---	None	---	None
71252: Britwater-----	B	Jan-Dec	---	---	---	---	None	---	None
73070: Sowcoon-----	C	Jan-Apr May-Nov Dec	1.0-2.5 --- 1.0-2.5	5.0-6.7 --- 5.0-6.7	--- --- ---	Brief --- Brief	Frequent None Frequent	--- --- ---	None None None
73113: Scholten-----	C	Jan-Apr May-Nov Dec	1.5-2.3 --- 1.5-2.5	2.0-4.0 --- 2.0-4.0	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
73114: Captina-----	C	Jan-Apr May-Nov Dec	1.3-2.5 --- 1.5-2.5	3.5-6.6 --- 3.5-6.6	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
73115: Horneybuck-----	C	Jan-Apr May-Nov Dec	1.5-2.5 --- 1.5-2.5	1.7-5.7 --- 1.7-5.7	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
Tonti-----	C	Jan Feb-Apr May-Nov Dec	1.5-2.5 1.2-2.5 --- 1.2-2.5	2.0-5.0 1.7-5.0 --- 1.7-5.0	--- --- --- ---	--- --- --- ---	None None None None	--- --- --- ---	None None None None
73116: Pomme-----	B	Jan-Dec	---	---	---	---	None	---	None
73117: Clarksville-----	B	Jan-Dec	---	---	---	---	None	---	None
Scholten-----	C	Jan-Apr May-Nov December	1.5-2.3 --- 1.5-2.3	2.0-4.0 --- 2.0-4.0	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
Hailey-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features

Map symbol and soil name	Hydro- logic group	Month	Water table			Ponding		Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
73118: Rueter-----	B	Jan-Dec	---	---	---	---	None	---	None
Goss-----	B	Jan-Dec	---	---	---	---	None	---	None
73119: Rueter-----	B	Jan-Dec	---	---	---	---	None	---	None
Hailey-----	B	Jan-Dec	---	---	---	---	None	---	None
73120: Rueter-----	B	Jan-Dec	---	---	---	---	None	---	None
Gasconade-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
73121: Scholten-----	C	Jan-Apr May-Nov Dec	1.5-2.3 --- 1.5-2.3	2.0-4.2 --- 2.0-4.2	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
Tonti-----	C	Jan-Apr May-Nov Dec	1.2-2.5 --- 1.2-2.5	1.7-5.0 --- 1.7-5.0	--- --- ---	--- --- ---	None None None	--- --- ---	None None None
73122: Gasconade-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
73123: Mano-----	C	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Jan-Dec	---	---	---	---	None	---	None
73124: Alred-----	B	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Jan-Dec	---	---	---	---	None	---	None
73125, 73126: Knobby-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features

Map symbol and soil name	Hydro- logic group	Month	Water table			Ponding		Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
73127, 73128: Gobbler-----	C	Jan-Dec	---	---	---	---	None	---	None
Sonsac-----	C	Jan-Dec	---	---	---	---	None	---	None
73129, 73130, 73131, 73132: Gasconade-----	D	Jan-Dec	---	---	---	---	None	---	None
73133: Alred-----	B	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Jan-Dec	---	---	---	---	None	---	None
73134: Alred-----	B	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Jan-Dec	---	---	---	---	None	---	None
Sonsac-----	B	Jan-Dec	---	---	---	---	None	---	None
74638, 74639: Waben-----	B	Jan-Dec	---	---	---	---	None	---	None
74640: Hootentown-----	B	Jan-Apr May-Nov Dec	---	---	---	---	None None None	Brief --- Brief	Rare None Rare
75401: Horsecreek-----	B	Jan-May Jun-Sep Oct Nov-Dec	---	---	---	---	None None None None	Very brief --- --- Very brief	Occasional Rare None Occasional
Jamesfin-----	B	Jan-May Jun-Nov Dec	---	---	---	---	None None None	Brief --- Brief	Occasional None Occasional
75402: Pinerun-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	None None None	Very brief --- Very brief	Occasional None Occasional
75403: Cedargap-----	B	Jan-Dec	---	---	---	---	None	Very brief	Occasional

[illegible][illegible]

Table 20.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
70030: Noark-----	---	---	---	---	None	Moderate	High
Clarksville-----	---	---	---	---	Moderate	Low	High
70031: Hailey-----	---	---	---	---	Moderate	Low	Moderate
Rueter-----	---	---	---	---	Moderate	Low	High
70032: Tonti-----	Fragipan	18-30	6-42	Noncemented	None	High	High
70033: Moko-----	Bedrock (lithic)	4-20	60-76	Indurated	---	Low	Low
Rock outcrop.							
70034: Moko-----	Bedrock (lithic)	4-20	60-76	Indurated	---	Low	Low
Blueye-----	Bedrock (lithic)	20-40	40-60	Indurated	Moderate	High	Moderate
Rock outcrop.							
70035: Sonsac-----	Bedrock (lithic)	20-40	40-60	Indurated	Moderate	Moderate	Moderate
Gobbler-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	High	Moderate
70036: Sonsac-----	Bedrock (lithic)	20-40	40-60	Strongly cemented	Moderate	Moderate	Moderate
Gobbler-----	Bedrock (lithic)	40-60	20-40	Strongly cemented	Moderate	High	Moderate
70037: Sonsac-----	Bedrock (lithic)	20-40	40-60	Indurated	Moderate	Moderate	Moderate
Rueter-----	---	---	---	---	Moderate	Low	High
70038: Moko-----	Bedrock (lithic)	4-20	60-76	Indurated	None	Low	Low
Rock outcrop.							
70050: Rueter-----	---	---	---	---	Moderate	Moderate	Moderate
Goss-----	---	---	---	---	Moderate	Moderate	Moderate
70051: Hailey-----	---	---	---	---	Moderate	Low	Moderate
Rueter-----	---	---	---	---	Moderate	Low	High
71252: Britwater-----	---	---	---	---	None	Moderate	Moderate
73070: Sowcoon-----	Fragipan	40-60	20-40	Noncemented	Moderate	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
73113: Scholten-----	Fragipan	18-27	6-17	Noncemented	Moderate	Moderate	High
73114: Captina-----	Fragipan	16-30	12-64	Noncemented	Moderate	Moderate	High
73115: Horneybuck-----	---	---	---	---	Moderate	High	High
Tonti-----	Fragipan	18-30	6-42	Noncemented	Moderate	High	High
73116: Pomme-----	---	---	---	---	Low	Moderate	Moderate
73117: Clarksville-----	---	---	---	---	Moderate	Low	High
Scholten-----	Fragipan	18-27	6-30	Noncemented	Moderate	Moderate	High
Hailey-----	---	---	---	---	Moderate	Low	Moderate
73118: Rueter-----	---	---	---	---	Moderate	Moderate	Moderate
Goss-----	---	---	---	---	Moderate	Moderate	Moderate
73119: Rueter-----	---	---	---	---	Moderate	Low	High
Hailey-----	---	---	---	---	Moderate	Low	Moderate
73120: Rueter-----	---	---	---	---	Moderate	Low	High
Gasconade-----	Bedrock (lithic)	4-20	60-76	Indurated	Moderate	High	Low
Rock outcrop.							
73121: Scholten-----	Fragipan	18-27	6-18	Noncemented	Moderate	Moderate	High
Tonti-----	Fragipan	15-30	6-36	Noncemented	Moderate	High	High
73122: Gasconade-----	Bedrock (lithic)	4-20	---	Indurated	Moderate	High	Low
Rock outcrop.							
73123: Mano-----	---	---	---	---	Moderate	Moderate	Moderate
Ocie-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	High	Moderate
73124: Alred-----	---	---	---	---	Moderate	Moderate	High
Ocie-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	High	Moderate
73125, 73126: Knobby-----	Bedrock (lithic)	4-20	60-76	Indurated	Low	Low	Low
Rock outcrop-----	Bedrock (lithic)	0-60	---	---	None	---	---

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness In	Hardness		Uncoated steel	Concrete
73127, 73128: Gobbler-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	High	Moderate
Sonsac-----	Bedrock (lithic)	20-40	40-60	Indurated	Moderate	High	Moderate
73129, 73130: Gasconade-----	Bedrock (lithic)	4-20	60-76	Indurated	Moderate	High	Low
73131: Gasconade-----	Bedrock (lithic)	4-22	58-75	Indurated	Moderate	High	Low
73132: Gasconade-----	Bedrock (lithic)	4-24	56-75	Indurated	Moderate	High	Low
73133: Alred-----	---	---	---	---	Moderate	Moderate	Moderate
Ocie-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	High	Moderate
73134: Alred-----	---	---	---	---	Moderate	Moderate	Moderate
Ocie-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	High	Moderate
Sonsac-----	Bedrock (lithic)	20-40	40-60	Indurated	Moderate	Moderate	Moderate
74638, 74639: Waben-----	---	---	---	---	---	Low	Moderate
74640: Hootentown-----	---	---	---	---	None	Moderate	Moderate
75401: Horsecreek-----	---	---	---	---	High	Low	Low
Jamesfin-----	---	---	---	---	High	Low	Moderate
75402: Pinerun-----	---	---	---	---	Moderate	Moderate	Moderate
75403: Cedargap-----	---	---	---	---	Moderate	Low	Low
Woolly-----	Bedrock (lithic)	40-60	20-40	Indurated	Moderate	Low	Low
75404: Pinerun-----	---	---	---	---	Moderate	Moderate	Moderate
75405: Pinerun-----	---	---	---	---	Moderate	Moderate	Moderate
Waben-----	---	---	---	---	---	Low	Moderate
99000. Pits, quarries							
99001. Water							
99005. Landfills							



# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is clayey-skeletal, mixed, active, mesic Typic Hapludalfs.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

## Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (USDA, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA, 1999) and in "Keys to Soil Taxonomy" (USDA, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

### ***Alred Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Interfluvium on basin or structural bench on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium over residuum weathered from limestone or dolostone

*Slope range:* Moderately sloping to very steep (3 to 50 percent)

*Elevation:* 1,110 feet

*Taxonomic class:* Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs

### **Typical Pedon**

Alred-Ocie-Sonsac complex, 8 to 15 percent slopes, stony, in hayland; 850 feet west and 1,150 feet south of the northeast corner of sec. 5, T. 21 N., R. 24 W.; USGS Viola topographic quadrangle; latitude 36 degrees 33 minutes 25 seconds N.; longitude 93 degrees 32 minutes 57 seconds W.; UTM coordinates 4,045,870 meters N. and 450,845 meters E.

A—0 to 5 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; many very fine and fine roots; 25 percent subrounded chert gravel; moderately acid; clear smooth boundary.

E—5 to 12 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak fine granular structure; friable; many very fine and fine roots throughout; 50 percent subrounded chert gravel; moderately acid; clear smooth boundary.

BE—12 to 18 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent dark yellowish brown (10YR 4/4) extremely gravelly silt loam; weak very fine and fine subangular blocky structure; friable; many very fine and fine roots throughout; 70 percent subrounded chert gravel; slightly acid; clear wavy boundary.

Bt1—18 to 30 inches; 60 percent brown (7.5YR 4/4) and 40 percent strong brown (7.5YR 4/6) extremely gravelly loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; very few distinct discontinuous brown (7.5YR 4/4) clay films on faces of peds and few faint discontinuous dark yellowish brown (10YR 4/4) silt coats on faces of peds; 85 percent subrounded chert gravel; slightly acid; abrupt wavy boundary.

2Bt2—30 to 36 inches; 60 percent yellowish red (5YR 4/6) and 40 percent strong brown (7.5YR 5/6) clay; weak fine subangular blocky structure; very firm; common very fine and fine roots throughout; very few distinct discontinuous black stains on faces of peds and few distinct discontinuous yellowish red (5YR 4/6) clay films on faces of peds; 2 percent subangular chert gravel; moderately acid; clear smooth boundary.

2Bt3—36 to 46 inches; yellowish brown (10YR 5/6) gravelly clay; weak very fine and fine subangular

blocky structure; very firm; common very fine roots; few prominent discontinuous black stains on faces of peds, common distinct discontinuous yellowish brown (10YR 5/6) clay films on faces of peds, and few prominent discontinuous red (2.5YR 4/6) iron stains on faces of peds; 25 percent subangular chert gravel; moderately acid; clear smooth boundary.

2Bt4—46 to 61 inches; light olive brown (2.5Y 5/6) gravelly clay; weak very fine and fine subangular blocky structure; very firm; common very fine roots throughout; few distinct discontinuous black stains on faces of peds, common distinct discontinuous light olive brown (2.5Y 5/6) clay films on faces of peds, and very few prominent discontinuous red (2.5YR 4/6) iron stains on faces of peds; 20 percent subangular chert gravel; neutral.

### **Range in Characteristics**

*Depth to bedrock:* More than 60 inches

*Depth to 2Bt horizon:* 15 to 40 inches

*Surface cover:* 0 to .1 percent stones

*Reaction:* Neutral to very strongly acid throughout

*A or Ap horizon:*

Color—value of 3, 4, or 5 and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—15 to 80 percent; 15 to 80 percent gravel and 0 to 50 percent cobbles

*E and BE horizons:*

Color—hue of 7.5YR and 10YR, value of 4, 5, or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—15 to 80 percent; 15 to 80 percent gravel and 0 to 50 percent cobbles

*Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, sandy clay loam, or clay

Content of rock fragments—35 to 80 percent; 35 to 80 percent gravel and 0 to 50 percent cobbles

*2Bt horizon:*

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6

chroma of 1, 2, 3, 4, 6, or 8

Texture of the fine-earth fraction—silty clay or clay

Content of rock fragments—0 to 35 percent; 0 to 30 percent gravel and 0 to 20 percent cobbles; in some pedons, the lower part of the 2Bt horizon below the particle-size control section ranges up to 60 percent rock fragments

## **Blueye Series**

*Root restrictive depth:* Moderately deep (20 to 40 inches)

*Drainage class:* Well drained

*Landform:* Hillside on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium over residuum weathered from limestone or dolostone

*Slope range:* Moderately steep to very steep (15 to 50 percent)

*Elevation:* 1,140 feet

*Taxonomic class:* Fine, mixed, active, mesic Typic Argiudolls

### **Typical Pedon**

Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes, in a wooded area; 1,300 feet east and 125 feet south of the northwest corner of sec. 33, T. 26 N., R. 22 W.; USGS Spokane topographic quadrangle; latitude 36 degrees 55 minutes 1 second N.; longitude 93 degrees 21 minutes 11 seconds W.; UTM coordinates 4,085,730 meters N. and 468,550 meters E.

A—0 to 6 inches; dark brown (10YR 3/3) very gravelly silty clay loam; moderate fine subangular blocky structure; friable; common coarse and many medium roots throughout; 45 percent subangular chert gravel; slightly alkaline; clear smooth boundary.

AB—6 to 10 inches; 60 percent dark brown (10YR 3/3) and 40 percent dark yellowish brown (10YR 4/4) gravelly silty clay loam; moderate fine subangular blocky structure; friable; many fine and medium roots throughout; 25 percent subangular chert gravel; neutral; clear smooth boundary.

2Bt1—10 to 14 inches; dark yellowish brown (10YR 4/6) gravelly silty clay; moderate fine and medium subangular blocky structure; friable; common coarse and many fine roots throughout; very few distinct discontinuous dark yellowish brown (10YR 4/6) clay films on faces of peds; 20 percent subangular chert gravel; neutral; clear smooth boundary.

2Bt2—14 to 21 inches; yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine and coarse roots throughout; very few distinct discontinuous yellowish brown (10YR 5/6) clay films on faces of peds and very few prominent discontinuous brown (10YR 4/3) organic coats in root channels and/or pores; 10 percent subangular chert gravel; neutral; clear smooth boundary.

2Bt3—21 to 30 inches; dark yellowish brown (10YR 4/6) silty clay; moderate medium subangular blocky structure; firm; common medium and coarse roots throughout; very few distinct discontinuous dark yellowish brown (10YR 4/4) and very few faint discontinuous brown (10YR 4/3) clay films on faces of peds; 10 percent subangular chert gravel; neutral; abrupt smooth boundary.

2R—30 inches; limestone.

### **Range in Characteristics**

*Depth to bedrock:* 20 to 40 inches

*A or Ap and AB horizons:*

Color—value of 2 or 3 and chroma of 1, 2, or 3

Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam

Content of rock fragments—15 to 50 percent gravel

Reaction—moderately alkaline to slightly acid

*2Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silty clay or clay

Content of rock fragments—5 to 30 percent gravel

Reaction—moderately alkaline to neutral

## **Britwater Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Terrace on plateau

*Position on the landform:* Summit

*Parent material:* Alluvium

*Slope range:* Moderately sloping (3 to 8 percent)

*Elevation:* 970 feet

*Taxonomic class:* Fine-loamy, mixed, active, mesic Typic Paleudalfs

### **Typical Pedon**

Britwater gravelly silt loam, 3 to 8 percent slopes, in a pasture; 2,100 feet west and 450 feet north of the southeast corner of sec. 34, T. 25 N., R. 23 W.; USGS Galena topographic quadrangle; latitude 36 degrees 50 minutes 10 seconds N.; longitude 93 degrees 26 minutes 22 seconds W.; UTM coordinates 4,074,690 meters N. and 460,860 meters E.

A—0 to 3 inches; brown (10YR 4/3) gravelly silt loam; moderate fine granular structure; friable; common medium and coarse and many very fine and fine roots; 20 percent subrounded chert gravel; strongly acid; clear smooth boundary.

BE—3 to 10 inches; dark yellowish brown (10YR 4/4)

gravelly silt loam; weak very fine and fine subangular blocky structure; friable; common coarse and many very fine and fine roots; 20 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt1—10 to 18 inches; brown (7.5YR 5/4) silt loam; weak fine subangular blocky structure; friable; common very fine, fine, and coarse roots; common faint (7.5YR 5/4) clay films and few black stains on faces of peds; 10 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt2—18 to 27 inches; brown (7.5YR 4/4) gravelly silt loam; moderate fine subangular blocky structure; firm; common very fine, fine, and coarse roots; common faint brown (7.5YR 4/4) clay films and few black stains on faces of peds; 30 percent subrounded chert gravel; strongly acid; gradual smooth boundary.

Bt3—27 to 40 inches; yellowish red (5YR 4/6) gravelly loam; moderate fine subangular blocky structure; firm; common very fine, fine, and medium roots; common faint yellowish red (5YR 4/6) clay films, few distinct brown (7.5YR 5/4) silt coats, and few black stains on faces of peds; 20 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt4—40 to 50 inches; yellowish red (5YR 4/6) very gravelly loam; moderate very fine and fine subangular blocky structure; firm; common very fine and fine roots; common distinct brown (7.5YR 5/4) silt coats, common faint yellowish red (5YR 4/6) clay films, and few black stains on faces of peds; 40 percent subrounded chert gravel; strongly acid; clear wavy boundary.

Bt5—50 to 60 inches; 60 percent yellowish red (5YR 4/6) and 40 percent brown (7.5YR 5/4) gravelly silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine roots; common faint yellowish red (5YR 4/6) clay films and few black stains on faces of peds; 30 percent subrounded chert gravel; strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

#### ***A or Ap horizon:***

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—0 to 25 percent gravel

Reaction—neutral to very strongly acid

#### ***BA horizon (where present) and BE horizon:***

Color—hue of 7.5YR or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—loam or silt loam

Content of rock fragments—0 to 30 percent gravel

Reaction—neutral to very strongly acid

#### ***Bt1 horizon:***

Color—hue of 5YR, value of 4 or 5, and chroma of 3, 4, 6, or 8; or hue of 7.5YR or 10YR, value of 5, and chroma of 6 or 8

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or clay loam

Content of rock fragments—5 to 35 percent gravel

Reaction—neutral to very strongly acid

#### ***Upper Bt horizon:***

Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or clay loam

Content of rock fragments—5 to 35 percent gravel

Reaction—slightly acid to very strongly acid

#### ***Lower Bt horizon:***

Color—hue of 10R, 2.5YR, 5YR, or 7.5YR, value of 3, 4, or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silty clay loam, silty clay, clay loam, or clay

Content of rock fragments—15 to 75 percent gravel

Reaction—slightly acid to very strongly acid

### ***Captina Series***

*Root restrictive depth:* Moderately deep (16 to 30 inches)

*Drainage class:* Moderately well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Summit

*Parent material:* Loess over slope alluvium over residuum weathered from cherty limestone

*Slope range:* Very gently sloping (1 to 3 percent)

*Elevation:* 1,442 feet

*Taxonomic class:* Fine-silty, siliceous, active, mesic Typic Fragiudults

### ***Typical Pedon***

Captina silt loam, 1 to 3 percent slopes, in a pasture; 1,000 feet east and 1,950 feet north of the southwest corner of sec. 5, T. 26 N., R. 24 W.; USGS Crane topographic quadrangle; latitude 36 degrees 58 minutes 40 seconds N.; longitude 93 degrees 35 minutes 18 seconds W.; UTM coordinates 4,093,270 meters N. and 447,650 meters E.

Ap—0 to 4 inches; brown (10YR 4/3) silt loam; moderate fine granular structure; friable; many fine roots throughout; many fine interstitial and

- tubular pores; 5 percent subrounded chert gravel; strongly acid; abrupt smooth boundary.
- E—4 to 11 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable; common fine roots throughout; many very fine and fine interstitial and tubular pores; common fine rounded masses of iron-manganese accumulation; 5 percent subrounded chert gravel; slightly acid; clear smooth boundary.
- Bt1—11 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; weak fine subangular blocky structure; firm; common fine roots throughout; many very fine and fine interstitial and tubular pores; few faint discontinuous yellowish brown (10YR 5/6) clay films on faces of peds and in pores and few distinct discontinuous brown (10YR 5/3) skeletons on faces of peds and in pores; common fine rounded masses of iron-manganese accumulation; 2 percent subrounded chert gravel; slightly acid; clear smooth boundary.
- Bt2—21 to 26 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; firm; common fine roots throughout; many very fine and fine interstitial and tubular pores; few faint discontinuous yellowish brown (10YR 5/4) clay films on faces of peds and in pores and few distinct discontinuous strong brown (7.5YR 5/6) iron stains on faces of peds; common fine black (N 2/0) rounded masses of iron-manganese accumulation and common fine and medium irregular pinkish gray (7.5YR 6/2) clay depletions between peds; 5 percent subrounded chert gravel; very strongly acid; abrupt wavy boundary.
- 2Btx1—26 to 43 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate medium prismatic structure; hard, brittle; common fine roots in cracks; common very fine and fine interstitial pores; many distinct continuous light brownish gray (10YR 6/2) skeletons on vertical faces of peds and common distinct continuous dark gray (10YR 4/1) clay films in root channels and/or pores; 60 percent subangular chert gravel; very strongly acid; gradual wavy boundary.
- 2Btx2—43 to 53 inches; brown (7.5YR 5/4) extremely gravelly silt loam; weak medium prismatic structure; hard, brittle; common fine roots in cracks; common very fine and fine interstitial pores; many distinct continuous light brownish gray (10YR 6/2) skeletons on vertical faces of peds, common distinct continuous dark gray (10YR 4/1) clay films in root channels and/or pores, and few prominent discontinuous reddish brown (2.5YR 4/4) iron stains on faces of peds; 70 percent subangular

chert gravel; very strongly acid; clear irregular boundary.

- 3Bt—53 to 60 inches; dark red (2.5YR 3/6) gravelly clay; weak fine subangular blocky structure; firm; many very fine and fine interstitial pores; common faint continuous dark red (2.5YR 3/6) clay films on faces of peds and in pores and few prominent discontinuous yellowish brown (10YR 5/4) skeletons on faces of peds; 30 percent subangular chert gravel; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to fragipan:* 16 to 30 inches

*Other distinctive soil features:* Rock fragments range from 0 to 5 percent above the fragipan

#### *Ap horizon:*

Color—value of 4 or 5 and chroma of 2, 3, or 4

Reaction—neutral to very strongly acid

#### *A horizon (where present):*

Color—hue of 10YR, value of 3 or 4, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam

Reaction—neutral to very strongly acid

#### *E horizon:*

Color—value of 5 or 6 and chroma of 3 or 4

Reaction—neutral to very strongly acid

#### *BA and BE horizons (where present):*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silt loam or silty clay loam

Reaction—neutral to very strongly acid

#### *Bt horizon:*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4, 6, or 8; clay depletions (where present) have hue of 7.5YR or 10YR, value of 6 or 7, and chroma of 2

Texture of the fine-earth fraction—silt loam or silty clay loam

Reaction—neutral to extremely acid

#### *2Btx horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 4, 6, or 8; clay depletions (where present) have hue of 7.5YR or 10YR, value of 4, 5, 6, or 7, and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

Content of rock fragments—0 to 70 percent gravel

Reaction—moderately acid to extremely acid

*3Bt horizon:*

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 2, 3, 4, 6, or 8 (chroma of 2 is relict and does not indicate wetness)

Texture of the fine-earth fraction—silty clay loam, silty clay, clay loam, or clay

Content of rock fragments—30 to 90 percent gravel

Reaction—moderately acid to extremely acid

**Cedargap Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Flood plain

*Parent material:* Alluvium

*Slope range:* Level to gently sloping (0 to 5 percent)

*Taxonomic class:* Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls

**Typical Pedon**

Cedargap-Woolly complex, 0 to 5 percent slopes, occasionally flooded, in a pasture; 75 feet east and 2,280 feet north of the southwest corner of sec. 16, T. 23 N., R. 22 W.; USGS Garber topographic quadrangle; latitude 36 degrees 41 minutes 32 seconds N.; longitude 93 degrees 19 minutes 40 seconds W.; UTM coordinates 4,060,770 meters N. and 470,710 meters E.

Ap—0 to 7 inches; very dark brown (10YR 2/2) extremely gravelly coarse sandy loam; weak fine granular structure; friable; many very fine and fine roots throughout; 65 percent rounded chert gravel; neutral; clear smooth boundary.

A—7 to 14 inches; dark brown (7.5YR 3/2) extremely gravelly sandy clay loam; weak fine granular structure; friable; many very fine and fine roots throughout; 70 percent rounded chert gravel; slightly alkaline; clear smooth boundary.

Bw—14 to 24 inches; dark brown (7.5YR 3/2) extremely gravelly clay loam; weak very fine subangular blocky structure; friable; common very fine, fine, and medium and many coarse roots throughout; 65 percent rounded chert gravel; slightly alkaline; clear wavy boundary.

C1—24 to 44 inches; dark brown (7.5YR 3/2) extremely gravelly sandy clay loam; massive; friable; common fine and medium roots throughout; few distinct discontinuous black (10YR 2/1) iron or iron-manganese stains in root channels and/or pores; 75 percent rounded chert gravel; slightly alkaline; gradual wavy boundary.

C2—44 to 60 inches; dark brown (7.5YR 3/2) extremely

gravelly sandy clay loam; massive; friable; common fine roots throughout; 80 percent rounded chert gravel; slightly alkaline.

**Range in Characteristics**

*Depth to bedrock:* More than 60 inches

*Thickness of the mollic epipedon:* 24 to more than 60 inches

*Other distinctive soil features:* Rock fragment content in the 10 to 40 inch zone averages 35 to 85 percent, by volume; clay percentage ranges from 18 to 30 percent; individual horizons contain 35 to 85 percent gravel and 0 to 5 percent cobbles

*Reaction:* Slightly alkaline to moderately acid throughout

*Ap and A horizons:*

Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1, 2, or 3

Texture of the fine-earth fraction—silt loam, loam, sandy loam, coarse sandy loam, sandy clay loam, clay loam, or silty clay loam

*Bw horizon:*

Color—hue of 7.5YR or 10YR, value of 3, 4, or 5, and chroma of 1, 2, 3, or 4

Texture of the fine-earth fraction—loam, silt loam, sandy loam, coarse sandy loam, silty clay loam, clay loam, or sandy clay loam

*C horizon and 2Bw and 2C horizons (where present):*

Color—hue of 5YR, 7.5YR, or 10YR, value of 2, 3, 4, or 5, and chroma of 1, 2, 3, 4, 6, or 8

Texture of the fine-earth fraction—silt loam, loam, silty clay loam, clay loam, sandy clay loam, silty clay, sandy clay, or clay

**Clarksville Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Landform:* Ridge on plateau

*Position on the landform:* Shoulder or summit

*Parent material:* Local colluvium over residuum weathered from cherty limestone

*Slope range:* Moderately sloping and strongly sloping (3 to 15 percent)

*Elevation:* 1,350 feet

*Taxonomic class:* Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults

**Typical Pedon**

Clarksville-Scholten-Hailey complex, 3 to 15 percent slopes, in a pasture; 2,790 feet east and 2,630 feet south of the northwest corner of sec. 13, T. 24 N., R. 23

W.; USGS Spokane topographic quadrangle; latitude 36 degrees 46 minutes 46 seconds N.; longitude 93 degrees 22 minutes 16 seconds W.; UTM coordinates 4,070,470 meters N. and 466,880 meters E.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) extremely gravelly silt loam; weak fine granular structure; friable; common medium and coarse and many very fine and fine roots throughout; 65 percent subrounded chert gravel; moderately acid; clear smooth boundary.

E—4 to 9 inches; brown (10YR 5/3) very gravelly silt; weak fine granular structure; friable; common medium and coarse and many very fine and fine roots throughout; very few prominent discontinuous iron stains throughout; common fine rounded worm casts throughout; 50 percent subrounded chert gravel; strongly acid; clear wavy boundary.

Bt1—9 to 21 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak fine subangular blocky structure; friable; common very fine, fine, and medium roots throughout; very few faint discontinuous yellowish brown (10YR 5/4) clay films on faces of peds; few fine rounded worm casts throughout; 50 percent subrounded chert gravel; moderately acid; clear wavy boundary.

Bt2—21 to 32 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; weak medium subangular blocky structure; friable; common fine roots throughout; very few faint discontinuous strong brown (7.5YR 5/6) clay films on faces of peds; common discontinuous distinct pale brown (10YR 6/3) skeletans on faces of peds and in pores; 70 percent subrounded chert gravel; very strongly acid; abrupt wavy boundary.

2Bt3—32 to 63 inches; dark red (2.5YR 3/6) extremely cobbly silty clay; common fine distinct pinkish gray (7.5YR 6/2) and many coarse prominent light gray (N 7/0) mottles; moderate very fine and fine subangular blocky structure; firm; common fine roots throughout; few prominent discontinuous reddish yellow (7.5YR 6/6) clay films on faces of peds; 40 percent subangular chert gravel and 40 percent subangular chert cobbles; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to the argillic horizon:* 7 to 40 inches

*Other distinctive soil features:* Particle-size control section has less than 35 percent clay, less than 20 percent sand, and more than 35 percent chert fragments

*Reaction:* Moderately acid to extremely acid throughout

### ***A horizon:***

Color—value of 2, 3, 4, 5, or 6 and chroma of 1, 2, 3, or 4

Content of rock fragments—20 to 80 percent gravel and 0 to 10 percent cobbles

### ***Ap horizon (where present):***

Color—hue of 10YR, value of 4, 5, or 6, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—20 to 80 percent gravel and 0 to 10 percent cobbles

### ***E horizon:***

Color—value of 4, 5, 6, or 7 and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—20 to 80 percent gravel and 0 to 10 percent cobbles

### ***BE horizon (where present) and Bt horizon:***

Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4, 5, or 6, and chroma of 4 or 6

Texture of the fine-earth fraction—silty clay loam, loam, or silt loam

Content of rock fragments—35 to 80 percent gravel and 0 to 40 percent cobbles

### ***2Bt horizon and 2C horizon (where present):***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 4 or 6

Texture of the fine-earth fraction—clay loam, silty clay, or clay

Content of rock fragments—35 to 80 percent gravel and 0 to 40 percent cobbles

## ***Gasconade Series***

*Root restrictive depth:* Shallow (4 to 20 inches)

*Drainage class:* Somewhat excessively drained

*Landform:* Ridge or hillside on basin or bluff on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Residuum weathered from cherty limestone or dolostone

*Slope range:* Moderately sloping to very steep (3 to 90 percent)

*Elevation:* 1,022 feet

*Taxonomic class:* Clayey-skeletal, mixed, superactive, mesic Lithic Hapludolls

### ***Typical Pedon***

Gasconade gravelly clay loam, 3 to 8 percent slopes, in a built-up area; 300 feet south and 1,325 feet east of the northwest corner of sec. 1, T. 21 N., R. 24 W.;

USGS Lampe topographic quadrangle; latitude 36 degrees 33 minutes 8 seconds N.; longitude 93 degrees 28 minutes 53 seconds W.; UTM coordinates 4,045,310 meters N. and 456,920 meters E.

A1—0 to 6 inches; very dark gray (10YR 3/1) gravelly clay loam; weak very fine and fine granular structure; friable; common very coarse and many fine and medium roots throughout; 20 percent subrounded chert gravel; slightly alkaline; abrupt wavy boundary.

A2—6 to 12 inches; very dark gray (10YR 3/1) very flaggy clay loam; weak fine and medium granular structure; friable; common very fine, fine, medium, and coarse roots throughout; 35 percent subrounded chert gravel and 25 percent chert flagstones; slightly alkaline; abrupt wavy boundary.

R—12 inches; dolostone.

### ***Range in Characteristics***

*Depth to bedrock:* 4 to 20 inches

*Surface cover:* 1 to 40 percent rock outcrop

*Other distinctive soil features:* Clay content in the control section is 35 to 60 percent

*Reaction:* Slightly alkaline to slightly acid throughout

#### ***A horizon:***

Color—value of 2 or 3 and chroma of 1, 2, or 3

Texture of the fine-earth fraction—silty clay loam, clay loam, or silty clay

Content of rock fragments—10 to 70 percent; 10 to 55 percent gravel, 0 to 30 percent cobbles, channers, or flagstones, and 0 to 15 percent stones

#### ***Bw horizon (where present):***

Color—hue of 7.5YR, 10YR, or 2.5Y, value of 2, 3, or 4, and chroma of 1, 2, 3, or 4

Texture of the fine-earth fraction—clay, silty clay, silty clay loam, or clay loam

Content of rock fragments—30 to 80 percent; 10 to 75 percent gravel, 0 to 35 percent cobbles, channers, or flagstones, and 0 to 10 percent stones

### ***Gobbler Series***

*Root restrictive depth:* Deep (40 to 60 inches)

*Drainage class:* Well drained

*Landform:* Structural bench or hillside on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium over residuum weathered from cherty limestone or dolostone

*Slope range:* Moderately sloping to steep (3 to 35 percent)

*Elevation:* 1,015 feet

*Taxonomic class:* Clayey-skeletal, mixed, active, mesic Typic Hapludalfs

### ***Typical Pedon***

Gobbler-Sonsac complex, 8 to 15 percent slopes, stony, in a forest; 400 feet north and 1,600 feet east of the southwest corner of sec. 36, T. 23 N., R. 23 W.; USGS Reeds Spring topographic quadrangle; latitude 36 degrees 38 minutes 4 seconds N.; longitude 93 degrees 22 minutes 35 seconds W.; UTM coordinates 4,055,455 meters N. and 466,350 meters E.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots throughout; 35 percent subrounded chert gravel; slightly acid; clear smooth boundary.

E—3 to 6 inches; grayish brown (10YR 5/2) very gravelly silty clay loam; weak fine granular structure; friable; common coarse and many fine and medium roots throughout; few distinct discontinuous black stains on faces of peds; 40 percent subrounded chert gravel; strongly acid; clear smooth boundary.

BE—6 to 13 inches; yellowish brown (10YR 5/4) very gravelly silty clay loam; weak very fine subangular blocky structure; friable; common coarse and many fine and medium roots throughout; few distinct discontinuous black stains on faces of peds; few fine and medium rounded black (N 2/0) masses of iron-manganese accumulation between peds; 45 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt1—13 to 20 inches; dark yellowish brown (10YR 4/6) extremely gravelly silty clay loam; weak fine subangular blocky structure; firm; common coarse and many fine and medium roots throughout; few distinct discontinuous dark yellowish brown (10YR 4/6) clay films on faces of peds and very few distinct discontinuous black stains on faces of peds; few medium rounded black (N 2/0) masses of iron-manganese accumulation between peds; 70 percent subrounded chert gravel and 5 percent subangular chert cobbles; moderately acid; clear smooth boundary.

Bt2—20 to 29 inches; 85 percent brown (7.5YR 5/4) and 15 percent red (2.5YR 4/6) extremely gravelly clay; weak very fine subangular blocky structure; firm; many fine, medium, and coarse roots throughout; common distinct discontinuous brown (7.5YR 5/4) clay films on faces of peds and few

distinct discontinuous black stains on faces of peds; few medium rounded black (N 2/0) masses of iron-manganese accumulation between peds; 50 percent subrounded chert gravel and 20 percent subangular chert cobbles; slightly acid; gradual wavy boundary.

2Bt3—29 to 39 inches; 60 percent red (2.5YR 4/6) and 40 percent strong brown (7.5YR 4/6) gravelly clay; weak very fine subangular blocky structure; very firm; common fine and medium and many coarse roots throughout; common distinct discontinuous red (2.5YR 4/6) clay films on faces of peds and few distinct discontinuous black stains on faces of peds; 30 percent subangular chert gravel; slightly acid; clear smooth boundary.

2Bt4—39 to 55 inches; 75 percent yellowish red (5YR 4/6) and 25 percent brown (7.5YR 5/4) very cobbly clay; weak fine subangular blocky structure; very firm; common very fine and fine roots throughout; few distinct discontinuous pale brown (10YR 6/3) and common distinct discontinuous yellowish red (5YR 4/6) clay films on faces of peds and few distinct discontinuous black stains on faces of peds; 20 percent subangular chert gravel and 30 percent subangular chert cobbles; neutral; abrupt wavy boundary.

R—55 inches; cherty dolostone.

### ***Range in Characteristics***

*Depth to bedrock:* 40 to 60 inches

*Surface cover:* 0 to 3 percent stones

*Other distinctive features:* Particle-size control section averages 35 to 50 percent clay and 35 to 65 percent rock fragments; surface layers that are 6 inches or more thick have value higher than 4

#### ***A or Ap horizon:***

Color—hue of 7.5YR or 10YR, value of 3, 4, or 5, and chroma of 2, 3, 4, or 6

Content of rock fragments—5 to 65 percent; 5 to 65 percent gravel and 0 to 30 percent cobbles

Reaction—slightly acid to very strongly acid

#### ***E horizon:***

Color—value of 5, 6, or 7 and chroma of 2, 3, or 4

Content of rock fragments—10 to 60 percent gravel

Reaction—slightly acid to very strongly acid

#### ***AB and BA horizons (where present) and BE horizon:***

Color—hue of 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 3, 4, or 6

Content of rock fragments—5 to 65 percent; 5 to 55 percent gravel and 0 to 35 percent cobbles

Reaction—slightly acid to very strongly acid

#### ***Bt horizon:***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam, silty clay loam, silty clay, or clay

Content of rock fragments—15 to 75 percent; 5 to 75 percent gravel and 0 to 45 percent cobbles

Reaction—slightly acid to strongly acid

#### ***2Bt horizon:***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silty clay loam, silty clay, or clay

Content of rock fragments—5 to 75 percent; 0 to 75 percent gravel, 0 to 75 percent cobbles, and 0 to 50 percent stones

Reaction—slightly alkaline to strongly acid

### ***Goss Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium over residuum weathered from cherty limestone

*Slope range:* Strongly sloping and moderately steep (8 to 20 percent)

*Elevation:* 1,320 feet

*Taxonomic class:* Clayey-skeletal, mixed, active, mesic Typic Paleudalfs

### ***Typical Pedon***

Rueter-Goss complex, 8 to 20 percent slopes, in a pasture; 1,000 feet east and 2,000 feet north of the southwest corner of sec. 21, T. 26 N., R. 23 W.; USGS Hurley topographic quadrangle; latitude 36 degrees 55 minutes 34 seconds N.; longitude 93 degrees 26 minutes 58 seconds W.; UTM coordinates 4,088,225 meters N. and 458,765 meters E.

A—0 to 6 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; moderate fine granular structure; friable; many very fine and fine roots throughout; 30 percent subrounded chert gravel; strongly acid; clear wavy boundary.

BE—6 to 13 inches; strong brown (7.5YR 5/6) very gravelly silt loam; weak very fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots throughout; few distinct discontinuous yellowish brown (10YR 5/4) silt coats on faces of peds; 50 percent subrounded chert gravel; slightly acid; clear broken boundary.

Bt1—13 to 18 inches; yellowish red (5YR 5/6) and strong brown (7.5YR 5/6) very gravelly silty clay loam; moderate very fine subangular blocky structure; friable; common very fine and fine roots throughout; few faint discontinuous yellowish red (5YR 5/6) clay films on faces of peds; 50 percent subrounded chert gravel; strongly acid; clear broken boundary.

2Bt2—18 to 31 inches; dark reddish brown (2.5YR 3/4) and red (2.5YR 4/8) very gravelly clay; weak fine subangular blocky structure parting to moderate very fine subangular blocky; firm; common very fine and fine roots throughout; common faint discontinuous dark reddish brown (2.5YR 3/4) clay films on faces of peds; 2 percent subangular chert cobbles and 40 percent subangular chert gravel; strongly acid; gradual smooth boundary.

2Bt3—31 to 60 inches; dark red (2.5YR 3/6) very gravelly clay; weak fine subangular blocky structure parting to moderate very fine subangular blocky; firm; common distinct discontinuous yellowish red (5YR 5/6) and common faint discontinuous dark red (2.5YR 3/6) clay films on faces of peds; 2 percent subangular chert cobbles and 50 percent subangular chert gravel; strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to 2Bt horizon:* 2 to 25 inches

*Other distinctive soil features:* Stones cover 0 to .1 percent of the surface; the 3Bt, C, and 2C horizons (where present) are variable in color and texture; the dominant matrix color in the lower 2Bt horizon to 60 inches has hue of 7.5YR or redder and chroma of 6 or 8

*Reaction:* Neutral to very strongly acid throughout

#### ***A or Ap horizon:***

Color—hue of 7.5YR or 10YR, value of 2, 3, or 4, 5 or 6 dry, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—5 to 75 percent; 5 to 75 percent gravel and 0 to 15 percent cobbles

#### ***E horizon (where present):***

Color—hue of 7.5YR or 10YR, value of 4, 5, or 6, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

Content of rock fragments—5 to 75 percent; 5 to 75 percent gravel and 0 to 15 percent cobbles

#### ***BA horizon (where present) and BE and Bt horizons:***

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

Content of rock fragments—5 to 75 percent; 5 to 75 percent gravel and 0 to 25 percent cobbles

#### ***2Bt horizon:***

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silty clay or clay

Content of rock fragments—15 to 75 percent; 15 to 75 percent gravel, 0 to 25 percent cobbles, and 0 to 10 percent stones

## ***Hailey Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Landform:* Hillside on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium weathered from cherty limestone

*Slope range:* Moderately sloping to very steep (3 to 60 percent)

*Elevation:* 1,195 feet

*Taxonomic class:* Loamy-skeletal, siliceous, superactive, mesic Typic Dystrudepts

### ***Typical Pedon***

Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, in a pasture; 2,050 feet north and 200 feet west of the southeast corner of sec. 28, T. 26 N., R. 23 W.; USGS Hurley topographic quadrangle; latitude 36 degrees 56 minutes 26 seconds N.; longitude 93 degrees 27 minutes 41 seconds W.; UTM coordinates 4,086,570 meters N. and 459,940 meters E.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) extremely gravelly silt loam; weak fine granular structure; friable; many fine roots throughout; 20 percent subrounded chert cobbles and 50 percent subrounded chert gravel; moderately acid; clear smooth boundary.

E—3 to 10 inches; brown (10YR 5/3) extremely gravelly silt; moderate fine granular structure; friable; many fine roots throughout; 20 percent subrounded chert cobbles and 50 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bw1—10 to 20 inches; pale brown (10YR 6/3) extremely cobbly silt loam; weak fine granular structure; friable; many fine roots throughout; many distinct discontinuous dark grayish brown (10YR 4/2) organic coats on faces of peds; 30 percent subrounded chert cobbles and 40 percent

subrounded chert gravel; strongly acid; clear smooth boundary.

Bw2—20 to 48 inches; light yellowish brown (10YR 6/4) extremely cobbly silt loam; weak very fine granular structure; friable; common very fine roots throughout; few distinct discontinuous dark grayish brown (10YR 4/2) organic coats on faces of peds; 35 percent subrounded chert gravel and 50 percent subrounded chert cobbles; strongly acid; clear smooth boundary.

Bw3—48 to 60 inches; light yellowish brown (10YR 6/4) extremely cobbly coarse sandy loam; weak very fine granular structure; friable; common fine prominent red (2.5YR 4/8) iron stains on faces of peds; 35 percent subrounded chert gravel and 50 percent subrounded chert cobbles; strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Surface cover:* 0 to .1 percent stones

*Reaction:* Moderately acid to very strongly acid, unless limed, throughout

*A or Ap horizon:*

Color—value of 2, 3, 4, 5, or 6 and chroma of 1, 2, 3, or 4

Content of rock fragments—35 to 80 percent; 35 to 80 percent gravel and 0 to 20 percent cobbles

*E horizon:*

Color—value of 4, 5, 6, or 7 and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam or silt

Content of rock fragments—35 to 80 percent; 35 to 80 percent gravel and 0 to 20 percent cobbles

*Bw horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam, loam, sandy loam, or coarse sandy loam

Content of rock fragments—35 to 85 percent; 35 to 80 percent gravel, 0 to 60 percent cobbles, and 0 to 65 percent stones

### ***Hootentown Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Stream terrace on river valley

*Position on the landform:* Toeslope

*Parent material:* Alluvium

*Slope range:* Level to very gently sloping (0 to 3 percent)

*Elevation:* 995 feet

*Taxonomic class:* Fine-silty, mixed, active, mesic Typic Paleudalfs

### ***Typical Pedon***

Hootentown silt loam, 0 to 3 percent slopes, rarely flooded, in a pasture; 2,375 feet east and 2,570 feet north of the southwest corner of sec. 22, T. 25 N., R. 23 W.; USGS Galena topographic quadrangle; latitude 36 degrees 51 minutes 31 seconds N.; longitude 93 degrees 26 minutes 30 seconds W.; UTM coordinates 4,078,590 meters N. and 461,780 meters E.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; many very fine and fine roots; few fine black (N 2/0) masses of iron-manganese throughout; moderately acid; clear smooth boundary.

BA—7 to 12 inches; 75 percent brown (7.5YR 4/4) and 25 percent dark brown (7.5YR 3/4) silt loam; weak very fine and fine subangular blocky structure; friable; common very fine and fine roots; few fine black (N 2/0) masses of iron-manganese throughout; slightly acid; clear smooth boundary.

Bt1—12 to 17 inches; 75 percent brown (7.5YR 4/4) and 25 percent dark brown (7.5YR 3/4) silt loam; weak medium prismatic structure parting to moderate very fine and fine subangular blocky; friable; common very fine and fine roots; few discontinuous faint brown (7.5YR 4/4) clay films on faces of peds, few discontinuous faint brown (7.5YR 5/4) silt coats on faces of peds, and few fine black (N 2/0) masses of iron-manganese throughout; slightly acid; clear smooth boundary.

Bt2—17 to 32 inches; 67 percent brown (7.5YR 4/4) and 33 percent dark brown (7.5YR 3/4) silt loam; weak medium prismatic structure parting to moderate very fine and fine subangular blocky; friable; common very fine and fine roots; few discontinuous faint brown (7.5YR 4/4) clay films on faces of peds, few discontinuous distinct yellowish brown (10YR 5/4) silt coats on faces of peds, and few fine black (N 2/0) masses of iron-manganese throughout; slightly acid; clear smooth boundary.

Bt3—32 to 40 inches; 70 percent dark brown (7.5YR 4/6), 25 percent strong brown (7.5YR 3/4), and 5 percent dark reddish brown (5YR 3/4) silt loam; moderate medium prismatic structure parting to moderate very fine subangular blocky; friable; common very fine and fine roots; few discontinuous faint dark brown (7.5YR 3/4) clay films on faces of peds, few discontinuous distinct light yellowish brown (10YR 6/4) clay films on faces of peds and in pores, and few discontinuous prominent pale brown (10YR 6/3) skeletons on faces of peds and in

pores; few fine black (N 2/0) masses of iron-manganese throughout; neutral; clear smooth boundary.

Bt4—40 to 60 inches; 55 percent brown (7.5YR 4/6), 40 percent strong brown (7.5YR 4/4), and 5 percent dark reddish brown (5YR 3/4) silt loam; moderate medium prismatic structure parting to moderate very fine subangular blocky; firm; few discontinuous faint brown (7.5YR 4/6) clay films on faces of peds; few discontinuous prominent brown (10YR 5/3) skeletons on faces of peds, few fine black (N 2/0) masses of iron-manganese throughout; slightly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Other distinctive soil features:* Thin lenses of up to 70 percent gravel may be present in some pedons; control section averages less than 15 percent sand and gravel and 18 to 35 percent clay

#### *A or Ap horizon:*

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 3 or 4; if value is 3 and chroma is 3, the total thickness is less than 6 inches  
Content of rock fragments—0 to 10 percent gravel  
Reaction—moderately acid or strongly acid

#### *BA horizon:*

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2, 3, 4, or 6  
Content of rock fragments—0 to 5 percent gravel  
Reaction—neutral to strongly acid

#### *Bt horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 2, 3, 4, or 6; the lower Bt horizon dominantly has hue of 7.5YR or redder and chroma of 6  
Texture of the fine-earth fraction—silt loam, silty clay loam, silty clay, clay loam, or loam  
Content of rock fragments—0 to 25 percent gravel  
Reaction—neutral to strongly acid

## ***Horneybuck Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Fine-loamy colluvium over gravelly residuum weathered from cherty limestone or dolostone

*Slope range:* Moderately sloping (3 to 8 percent)

*Elevation:* 1,305 feet

*Taxonomic class:* Fine-loamy, mixed, active, mesic Aquic Paleudults

### ***Typical Pedon***

Horneybuck-Tonti complex, 3 to 8 percent slopes, in a pasture; 1,200 feet east and 2,100 feet north of the southwest corner of sec. 23, T. 26 N., R. 24 W.; USGS Crane topographic quadrangle; latitude 36 degrees 56 minutes 31 seconds N.; longitude 93 degrees 32 minutes 5 seconds W.; UTM coordinates 4,088,400 meters N. and 452,380 meters E.

A—0 to 2 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many very fine and fine roots; 10 percent subrounded chert gravel; strongly acid; abrupt smooth boundary.

E—2 to 8 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; many very fine and fine roots; common discontinuous brown (10YR 4/3) organic coats on faces of peds; 10 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure; friable; common fine, medium, and coarse roots throughout; common discontinuous brown (10YR 4/3) organic coats and few discontinuous faint yellowish brown (10YR 5/6) clay films on faces of peds; common fine black (N 2/0) soft masses of iron-manganese throughout; 16 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt2—15 to 20 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; moderate fine subangular blocky structure; firm; common very fine and fine roots throughout; common discontinuous faint strong brown (7.5YR 5/6) clay films on faces of peds; common fine black (N 2/0) soft masses of iron manganese throughout; 20 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt3—20 to 24 inches; strong brown (7.5YR 5/6) gravelly silty clay loam;; moderate fine subangular blocky structure; firm; common very fine and fine roots throughout; common discontinuous faint strong brown (7.5YR 5/6) clay films on faces of peds; common fine black (N 2/0) soft masses of iron manganese throughout; few fine light brownish gray (10YR 6/2) clay depletions throughout; common fine red (2.5YR 4/6) soft masses of iron on faces of peds; 30 percent subrounded chert gravel; very strongly acid; abrupt wavy boundary.

2Bt/E—24 to 40 inches; red (2.5YR 4/6) and strong brown (7.5YR 5/6) gravelly silt loam; weak very fine and fine subangular blocky structure; firm;

common very fine and fine roots; common discontinuous faint red (2.5YR 4/6) clay films on faces of peds, common discontinuous gray (10YR 5/1) clay films in root channels and/or pores, and common continuous light brownish gray (10YR 6/2) skeletons in root channels and/or pores; common fine black (N 2/0) soft masses of iron-manganese throughout; 28 percent subrounded chert gravel; very strongly acid; gradual wavy boundary.

2Bt—40 to 60 inches; red (2.5YR 4/6) and strong brown (7.5YR 5/6) very gravelly silty clay loam; weak very fine and fine subangular blocky structure; firm; common discontinuous gray (10YR 5/1) clay films in root channels and/or pores and common discontinuous faint red (2.5YR 4/6) clay films on faces of peds; common fine black (N 2/0) soft masses of iron-manganese throughout; 45 percent subrounded chert gravel; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

#### *A or Ap horizon:*

Color—value of 3, 4, or 5 and chroma of 2, 3, 4, or 6

Content of rock fragments—2 to 10 percent gravel

Reaction—neutral to strongly acid

#### *E horizon:*

Color—value of 4 or 5 and chroma of 3 or 4

Content of rock fragments—2 to 10 percent gravel

Reaction—neutral to strongly acid

#### *Bt horizon:*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3, 4, or 6; clay depletions (where present) have hue of 10YR, value of 6, and chroma of 2

Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

Content of rock fragments—1 to 30 percent gravel

Reaction—strongly acid or very strongly acid

#### *2Bt/E horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 4 or 6; clay depletions have value of 5, 6, or 7, and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

Content of rock fragments—1 to 50 percent gravel

Reaction—strongly acid or very strongly acid

#### *2Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 4, 6, or 8; clay depletions (where present) have hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, silty clay loam, silty clay, loam, or clay loam

Content of rock fragments—35 to 80 percent; 35 to 80 percent gravel and 0 to 60 percent cobbles

Reaction—strongly acid or very strongly acid

### ***Horsecreek Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Flood plain

*Parent material:* Alluvium

*Slope range:* Nearly level (0 to 2 percent)

*Elevation:* 1,039 feet

*Taxonomic class:* Fine-silty, mixed, active, mesic Mollic Hapludalfs

### ***Typical Pedon***

Horsecreek and Jamesfin soils, 0 to 2 percent slopes, occasionally flooded, in a pasture; 971 feet north and 450 feet west of the southeast corner of sec. 8, T. 26 N., R. 22 W.; USGS Highlandville topographic quadrangle; latitude 36 degrees 57 minutes 51 seconds N.; longitude 93 degrees 21 minutes 50 seconds W.; UTM coordinates 4,090,970 meters N. and 468,275 meters E.

Ap—0 to 9 inches; dark brown (10YR 3/3), crushed, silt loam, brown (10YR 5/3), crushed, dry; weak very fine subangular blocky parting to moderate fine granular; friable; common fine roots; neutral; gradual smooth boundary.

A—9 to 19 inches; brown (10YR 4/3), crushed, silt loam, pale brown (10YR 6/3), crushed, dry; weak very fine subangular blocky structure parting to moderate fine subangular blocky; friable; common fine roots; neutral; clear smooth boundary.

Bt1—19 to 28 inches; brown (10YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; common fine roots; many discontinuous faint dark brown (10YR 3/3) organic coats on faces of peds and common discontinuous distinct brown (10YR 4/3) clay films on faces of peds and in pores; 2 percent chert gravel; neutral; clear smooth boundary.

Bt2—28 to 39 inches; brown (7.5YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; common fine roots; common discontinuous faint discontinuous brown (10YR 4/3) clay films on faces of peds and in pores; neutral; gradual smooth boundary.

Bt3—39 to 51 inches; brown (7.5YR 4/3) silt loam; moderate fine subangular blocky structure; firm; common fine roots; common fine yellowish brown

(10YR 5/6) masses of iron accumulation; common faint discontinuous brown (10YR 4/3) clay films on faces of peds and in pores; neutral; clear smooth boundary.

Bt4—51 to 60 inches; brown (7.5YR 4/4) silt loam; moderate fine and medium subangular blocky structure; firm; common fine roots; common continuous prominent light yellowish brown (10YR 6/4) skeletons on surfaces of pores; common discontinuous distinct brown (10YR 4/3) clay films on faces of peds and in pores; few fine black (N 2/0) masses of iron-manganese; neutral.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to Bt horizon:* 6 to 32 inches

#### ***Ap and A horizons:***

Color—hue of 7.5YR or 10YR and chroma of 2 or 3  
Content of rock fragments—0 to 3 percent gravel  
Reaction—neutral to moderately acid

#### ***AB, A2, and BA horizons (where present)***

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4  
Texture of the fine-earth fraction—silt loam  
Content of rock fragments—0 to 5 percent gravel  
Reaction—neutral to moderately acid

#### ***Bt horizon:***

Color—hue of 7.5YR or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, or 6  
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam  
Content of rock fragments—0 to 10 percent gravel  
Reaction—neutral to strongly acid

#### ***2Bt horizon (where present):***

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4  
Texture of the fine-earth fraction—silt loam, loam, clay loam, fine sandy loam, or sandy loam  
Content of rock fragments—0 to 5 percent gravel  
Reaction—slightly acid to strongly acid

#### ***C horizon (where present):***

Color—hue of 7.5YR or 10YR, value of 4, 5, or 6, and chroma of 3 or 4  
Texture of the fine-earth fraction—silt loam, loam, or fine sandy loam  
Content of rock fragments—0 to 5 percent  
Reaction—neutral or slightly acid

## ***Jamesfin Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Flood plain

*Parent material:* Alluvium

*Slope range:* Nearly level (0 to 2 percent)

*Elevation:* 1,020 feet

*Taxonomic class:* Fine-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts

### ***Typical Pedon***

Horsecreek and Jamesfin soils, 0 to 2 percent slopes, occasionally flooded, in a pasture; 1,050 feet north and 2,200 feet west of the southeast corner of sec. 8, T. 26 N., R. 22 W.; USGS Highlandville topographic quadrangle; latitude 36 degrees 57 minutes 53 seconds N.; longitude 93 degrees 21 minutes 50 seconds W.; UTM coordinates 4,091,020 meters N. and 467,610 meters E.

Ap—0 to 5 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.

Bw1—5 to 20 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; many very fine and fine roots; common faint discontinuous dark brown (10YR 3/3) organic coats on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; neutral; clear smooth boundary.

Bw2—20 to 40 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; common very fine roots; few distinct discontinuous dark brown (10YR 3/3) organic coats on faces of peds; common fine rounded black (N 2/0) iron-manganese concretions between peds; 1 percent rounded chert gravel; neutral; clear smooth boundary.

Bw3—40 to 50 inches; yellowish brown (10YR 5/4) silt loam; weak very fine and fine subangular blocky structure; friable; common very fine roots; very few distinct discontinuous dark brown (10YR 3/3) organic coats on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; neutral; clear smooth boundary.

C—50 to 60 inches; brown (10YR 5/3), yellowish brown (10YR 5/4), and light yellowish brown (10YR 6/4) silt loam; weak medium prismatic structure; friable; few fine rounded black (N 2/0) iron-manganese concretions between peds; neutral.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*A or Ap horizon:*

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3 (where value is 3, thickness is less than 10 inches)

Content of rock fragments—0 to 3 percent gravel

Reaction—neutral to strongly acid

*AB, A2, and BA horizons (where present):*

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 5 percent gravel

Reaction—neutral to moderately acid

*Ab and Bb horizons (where present):*

Color—hue of 7.5YR or 10YR, value of 3, 4, or 5, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—0 to 5 percent gravel

Reaction—slightly acid or moderately acid

*Bw horizon:*

Color—hue of 7.5YR or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

Content of rock fragments—0 to 5 percent gravel

Reaction—neutral to very strongly acid

*BC horizon (where present) and C horizon:*

Color—hue of 7.5YR or 10YR, value of 4, 5, or 6, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam, loam, or fine sandy loam

Content of rock fragments—0 to 5 percent gravel

Reaction—neutral or slightly acid

*2C horizon (where present):*

Color—hue of 10YR, value of 4 or 5, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—sand

Content of rock fragments—15 to 35 percent gravel

Reaction—neutral or slightly acid

### ***Knobby Series***

*Root restrictive depth:* Very shallow (4 to 10 inches)

*Drainage class:* Somewhat excessively drained

*Landform:* Knob on basin or on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Loamy residuum weathered from dolostone or cherty limestone

*Slope range:* Moderately sloping to very steep (3 to 50 percent)

*Elevation:* 1,075 feet

*Taxonomic class:* Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls

### ***Typical Pedon***

Knobby-Rock outcrop complex, 15 to 50 percent slopes, in a glade; 550 feet east and 1,100 feet south of the northwest corner of sec. 31, T. 23 N., R. 22 W.; USGS Garber topographic quadrangle; latitude 36 degrees 39 minutes 25 seconds N.; longitude 93 degrees 21 minutes 49 seconds W.; UTM coordinates 4,056,569 meters N. and 532,012 meters E.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) very channery silt loam; weak fine granular structure; friable; many very fine and fine roots throughout; 35 percent angular limestone channers; moderately alkaline; abrupt smooth boundary.

R—4 inches; limestone.

### ***Range in Characteristics***

*Depth to bedrock:* 4 to 10 inches

*Surface cover:* 0 to 25 percent rock outcrop or stones

*Other distinctive soil features:* Clay ranges from 5 to 18 percent

*A horizon:*

Color—value of 2 or 3 and chroma of 1 or 2

Texture of the fine-earth fraction—loam, silt loam, fine sandy loam, loamy sand, or sandy loam

Content of rock fragments—10 to 85 percent; 10 to 85 percent gravel and channers, 0 to 25 percent cobbles, and 0 to 60 percent flagstones

Reaction—moderately alkaline to neutral

### ***Mano Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Landform:* Structural bench on plateau

*Position on the landform:* Backslope

*Parent material:* Local colluvium over residuum weathered from limestone or dolostone

*Slope range:* Moderately sloping and strongly sloping (3 to 15 percent)

*Elevation:* 1,090 feet

*Taxonomic class:* Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

### ***Typical Pedon***

Mano-Ocie complex, 3 to 15 percent slopes, in hayland; 950 feet north and 1,950 feet east of the southwest

corner of sec. 28, T. 25 N., R. 23 W.; USGS Galena topographic quadrangle; latitude 36 degrees 50 minutes 7 seconds N.; longitude 93 degrees 27 minutes 41 seconds W.; UTM coordinates 4,076,582 meters N. and 458,780 meters E.

A—0 to 4 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; many very fine and fine roots; few fine and medium irregular black (N 2/0) masses of iron-manganese accumulation between pedes; 20 percent subrounded chert gravel; slightly acid; clear smooth boundary.

E—4 to 10 inches; 90 percent dark yellowish brown (10YR 4/4) and 10 percent yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure parting to weak very fine subangular blocky; friable; common very fine and fine roots; common distinct discontinuous brown (10YR 4/3) organic coats on faces of pedes; common fine and medium irregular black (N 2/0) masses of iron-manganese accumulation between pedes; 25 percent subrounded chert gravel; moderately acid; clear smooth boundary.

Bt1—10 to 16 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky and moderate very fine subangular blocky structure; friable; common very fine roots; few distinct discontinuous yellowish brown (10YR 5/6) clay films on faces of pedes and common distinct discontinuous dark yellowish brown (10YR 4/4) coats on faces of pedes; few fine and medium irregular black (N 2/0) masses of iron-manganese accumulation between pedes; 25 percent subrounded chert gravel; strongly acid; clear smooth boundary.

Bt2—16 to 29 inches; light yellowish brown (10YR 6/4) extremely gravelly silt loam; weak very fine and fine subangular blocky structure; friable; common very fine and fine roots; common distinct discontinuous strong brown (7.5YR 5/8) iron stains on faces of pedes and very few distinct discontinuous light yellowish brown (10YR 6/4) clay films on faces of pedes; few fine light gray (10YR 7/1) clay depletions throughout; 65 percent subrounded chert gravel; strongly acid; abrupt wavy boundary.

2Bt3—29 to 42 inches; light yellowish brown (2.5Y 6/4) clay; weak very fine subangular blocky structure; very firm; common distinct discontinuous light yellowish brown (2.5Y 6/4) clay films on faces of pedes; 2 percent subangular chert gravel; neutral; gradual smooth boundary.

2Bt4—42 to 72 inches; yellowish brown (10YR 5/8)

clay; weak very fine subangular blocky structure; very firm; many distinct discontinuous black stains on faces of pedes and common distinct discontinuous yellowish brown (10YR 5/8) clay films and few pressure faces on faces of pedes; common fine strong brown (7.5YR 5/6) masses of iron-manganese throughout; slightly alkaline.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to 2Bt horizon:* 7 to 40 inches

*Surface cover:* 0 to 3 percent stones

*Other distinctive soil features:* Chert content in the A, E, and Bt horizons ranges from 15 to 80 percent, 0 to 30 percent cobbles; chert content is less than 35 percent in the 2Bt horizon

*A or Ap horizon:*

Color—value of 3, 4, 5, or 6 and chroma of 1, 2, 3, or 4; if value and chroma are less than 4 moist, the A horizon is less than 7 inches thick

Texture of the fine-earth fraction—silt loam or loam

Reaction—neutral to very strongly acid

*E horizon and EB horizon (where present):*

Color—value of 4, 5, or 6 and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—silt loam or loam

Reaction—neutral to very strongly acid

*Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam

Reaction—slightly acid to very strongly acid

*2Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, 10YR, or 2.5Y, value of 2, 3, 4, 5, or 6, and chroma of 2, 3, 4, 6, or 8

Texture of the fine-earth fraction—clay or silty clay

Reaction—moderately alkaline to very strongly acid

### ***Moko Series***

*Root restrictive depth:* Shallow (4 to 20 inches)

*Drainage class:* Well drained

*Landform:* Hillside or ridge on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Loamy colluvium or residuum weathered from dolostone and cherty limestone

*Slope range:* Moderately sloping to very steep (3 to 50 percent)

*Elevation:* 1,180 feet

*Taxonomic class:* Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls

### **Typical Pedon**

Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes, in a cedar glade; 150 feet west and 900 feet south of the northeast corner of sec. 17, T. 24 N., R. 22 W.; USGS Spokane topographic quadrangle; latitude 36 degrees 46 minutes 59 seconds N.; longitude 93 degrees 19 minutes 28 seconds W.; UTM coordinates 4,070,860 meters N. and 471,060 meters E.

A1—0 to 7 inches; very dark brown (10YR 2/2) very gravelly clay loam; moderate fine granular structure; firm; many very fine and fine roots throughout; 55 percent subangular chert gravel; moderately alkaline; gradual wavy boundary.

A2—7 to 14 inches; very dark gray (10YR 3/1) very gravelly clay loam; moderate fine granular structure; firm; many medium and coarse roots throughout; 55 percent subangular chert gravel; moderately alkaline; abrupt wavy boundary.

R—14 inches; limestone.

### **Range in Characteristics**

*Depth to bedrock:* 4 to 20 inches

*Surface cover:* 0 to 20 percent rock outcrop or stones

*Other distinctive soil features:* The R horizon consists of hard level-bedded limestone or dolostone that is commonly fractured, at least in the upper part; cracks are up to 10 inches deep,  $\frac{1}{2}$  inch to 2 inches wide, and 2 to 5 feet apart filled with A material; the control section ranges from 18 to 35 percent clay

*A or Ap horizon:*

Color—value of 2 or 3 and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, sandy clay loam, or clay loam

Content of rock fragments—35 to 90 percent gravel, cobbles, channers, flagstones, or stones; individual horizons may contain less than 35 percent rock fragments

Reaction—moderately alkaline to moderately acid

### **Noark Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Shoulder or summit

*Parent material:* Local colluvium over residuum weathered from cherty limestone

*Slope range:* Moderately sloping (3 to 8 percent)

*Elevation:* 1,300 feet

*Taxonomic class:* Clayey-skeletal, mixed, semiactive, mesic Typic Paleudults

### **Typical Pedon**

Noark-Clarksville complex, 3 to 8 percent slopes, in hayland; 30 feet east and 1,000 feet north of the southwest corner of sec. 28, T. 25 N., R. 22 W.; USGS Spokane topographic quadrangle; latitude 36 degrees 50 minutes 31 seconds N.; longitude 93 degrees 21 minutes 36 seconds W.; UTM coordinates 4,077,400 meters N. and 467,900 meters E.

A—0 to 3 inches; brown (10YR 4/3) very gravelly silt loam; weak fine granular structure; friable; common coarse and many very fine and fine roots throughout; 55 percent subrounded chert gravel; strongly acid; clear smooth boundary.

E—3 to 8 inches; brown (10YR 5/3) very gravelly silt loam; moderate fine granular structure; friable; common coarse and many very fine and fine roots throughout; 50 percent subrounded chert gravel; very strongly acid; clear smooth boundary.

BE—8 to 12 inches; brown (10YR 5/3) and brown (7.5YR 5/4) gravelly silt loam; weak very fine subangular blocky structure; friable; common very fine, fine, and coarse roots throughout; 23 percent subrounded chert gravel; very strongly acid; clear smooth boundary.

Bt1—12 to 16 inches; strong brown (7.5YR 5/6) very gravelly silt loam; moderate very fine and fine subangular blocky structure; firm; common very fine, fine, and coarse roots throughout; few distinct discontinuous strong brown (7.5YR 5/6) clay films on faces of peds and common prominent discontinuous brown (10YR 5/3) skeletalans on faces of peds; 40 percent subrounded chert gravel; very strongly acid; clear smooth boundary.

Bt2—16 to 22 inches; yellowish red (5YR 5/6) very gravelly silty clay; moderate fine subangular blocky structure; firm; common very fine, fine, and coarse roots throughout; common distinct discontinuous yellowish red (5YR 5/6) clay films on faces of peds and few prominent discontinuous brown (10YR 5/3) skeletalans in root channels and/or pores; 49 percent subangular chert gravel; very strongly acid; clear smooth boundary.

Bt3—22 to 32 inches; 50 percent red (2.5YR 4/6), 40 percent yellowish red (5YR 5/6), and 10 percent yellowish brown (10YR 5/4) very gravelly clay; moderate fine and medium subangular blocky structure; firm; common very fine, fine, medium, and coarse roots throughout; many distinct

discontinuous yellowish red (5YR 5/6) clay films on faces of peds; 36 percent subangular chert gravel; very strongly acid; gradual smooth boundary.  
 2Bt4—32 to 60 inches; 95 percent dark red (10R 3/6) and 5 percent yellowish brown (10YR 5/4) very gravelly clay; many medium and coarse light gray (10YR 7/2) mottles; moderate fine and medium subangular blocky structure; very firm; common very fine and coarse roots throughout; common distinct continuous dark red (10R 3/6) clay films on faces of peds; 46 percent subangular chert gravel; extremely acid.

### **Range in Characteristics**

*Depth to bedrock:* More than 60 inches

*Other distinctive soil features:* Some pedons have clay depletions with chroma of 2 or less at depths greater than 40 inches

#### *A or Ap horizon:*

Color—value of 3, 4, or 5 and chroma of 2, 3, or 4  
 Content of rock fragments—15 to 60 percent; 15 to 60 percent gravel and 0 to 15 percent cobbles  
 Reaction—slightly acid to very strongly acid

#### *E horizon:*

Color—value of 5 or 6 and chroma of 3 or 4  
 Content of rock fragments—15 to 60 percent; 15 to 60 percent gravel and 0 to 10 percent cobbles  
 Reaction—slightly acid to very strongly acid

#### *BE and Bt horizons:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6  
 Texture of the fine-earth fraction—silt loam or silty clay loam  
 Content of rock fragments—35 to 60 percent; 20 to 60 percent gravel and 0 to 20 percent cobbles  
 Reaction—moderately acid to extremely acid

#### *2Bt horizon:*

Color—hue of 10R, 2.5YR, 5YR, or 7.5YR, value of 3, 4, 5, 6, or 7, and chroma of 4, 6, or 8; relict mottles with chroma of 2 are present in some pedons  
 Texture of the fine-earth fraction—silty clay or clay  
 Content of rock fragments—35 to 80 percent; 0 to 80 percent gravel and 0 to 50 percent cobbles  
 Reaction—strongly acid to extremely acid

### **Ocie Series**

*Root restrictive depth:* Deep (40 to 60 inches)

*Drainage class:* Moderately well drained

*Landform:* Interfluvium on basin or structural bench on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Local colluvium over residuum weathered from limestone or dolostone

*Slope range:* Moderately sloping to steep (3 to 35 percent)

*Elevation:* 1,105 feet

*Taxonomic class:* Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

### **Typical Pedon**

Alfred-Ocie-Sonsac complex, 8 to 15 percent slopes, stony, in a pasture; 1,210 feet east and 2,190 feet south of the northwest corner of sec. 4, T. 21 N., R. 24 W.; USGS Viola topographic quadrangle; latitude 36 degrees 33 minutes 14 seconds N.; longitude 93 degrees 32 minutes 36 seconds W.; UTM coordinates 4,045,510 meters N. and 451,370 meters E.

A—0 to 3 inches; dark grayish brown (10YR 4/2) gravelly silt loam; moderate fine granular structure; friable; common coarse and many very fine and fine roots throughout; 33 percent subrounded chert gravel; strongly acid; clear smooth boundary.

E—3 to 7 inches; brown (10YR 5/3) gravelly silt loam; moderate fine granular structure; friable; common coarse and many very fine and fine roots throughout; many distinct continuous dark grayish brown (10YR 4/2) organic coats on faces of peds; 24 percent subrounded chert gravel; strongly acid; clear smooth boundary.

BE—7 to 13 inches; brown (7.5YR 5/4) gravelly silt loam; weak very fine subangular blocky structure; friable; common very fine, fine, and coarse roots throughout; common distinct discontinuous dark grayish brown (10YR 4/2) organic coats on faces of peds; 20 percent subrounded chert gravel; moderately acid; clear wavy boundary.

Bt1—13 to 18 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate fine and medium subangular blocky structure; friable; common very fine, fine, and medium roots throughout; few distinct discontinuous black stains on faces of peds and very few distinct discontinuous strong brown (7.5YR 5/6) clay films on faces of peds; 25 percent subrounded chert gravel; moderately acid; clear irregular boundary.

2Bt2—18 to 33 inches; yellowish brown (10YR 5/4) and yellowish red (5YR 4/6) extremely gravelly silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine and fine roots throughout; few distinct discontinuous black stains on faces of peds and few distinct discontinuous yellowish brown (10YR 5/4) clay films

on faces of peds; 70 percent subangular chert gravel; slightly acid; abrupt irregular boundary.  
 2Bt3—33 to 46 inches; 80 percent yellowish red (5YR 4/6), 10 percent yellowish brown (10YR 5/6), and 10 percent red (2.5YR 4/6) gravelly clay; moderate fine subangular blocky and weak very fine subangular blocky structure; firm; common very fine roots throughout; few distinct discontinuous yellowish red (5YR 4/6) clay films on faces of peds; common prominent irregular black (N 2/0) masses of iron-manganese on faces of peds; 18 percent subangular chert gravel; slightly acid; abrupt irregular boundary.  
 R—46 inches; limestone.

### ***Range in Characteristics***

*Depth to bedrock:* 40 to 60 inches

*Depth to 2Bt horizon:* 5 to 40 inches

*Surface cover:* 0 to .1 percent stones

*Other distinctive soil features:* Some pedons have a C or Cr horizon; some pedons have clay depletions with chroma of 2 or less at depths greater than 30 inches

#### ***A or Ap horizon:***

Color—hue of 7.5YR or 10YR, value of 3, 4, or 5, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam, loam, or fine sandy loam

Content of rock fragments—0 to 65 percent; 0 to 65 percent gravel and 0 to 5 percent cobbles

Reaction—neutral to very strongly acid

#### ***E and BE horizons:***

Color—hue of 7.5YR or 10YR, value of 4, 5, or 6, and chroma of 2, 3, 4

Texture of the fine-earth fraction—silt loam, loam, or fine sandy loam

Content of rock fragments—0 to 65 percent; 0 to 65 percent gravel and 0 to 5 percent cobbles

Reaction—neutral to very strongly acid

#### ***Bt horizon:***

Color—hue of 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam

Content of rock fragments—5 to 80 percent; 5 to 80 percent gravel, 0 to 25 percent cobbles, and 0 to 5 percent stones

Reaction—moderately acid or strongly acid

#### ***2Bt horizon:***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, 6, or 7, and chroma of 2, 3, 4, 6, or 8

Texture of the fine-earth fraction—silty clay or clay

Content of rock fragments—0 to 35 percent; 0 to 35 percent gravel and 0 to 10 percent cobbles  
 Reaction—slightly alkaline to very strongly acid

### ***Pinerun Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Flood plain

*Parent material:* Alluvium

*Slope range:* Level to gently sloping (0 to 5 percent)

*Elevation:* 1,055 feet

*Taxonomic class:* Loamy-skeletal, siliceous, active, mesic Typic Hapludalfs

### ***Typical Pedon***

Pinerun-Waben complex, 0 to 5 percent slopes, in a pasture; 700 feet west and 2,650 feet south of the northeast corner of sec. 36, T. 25 N., R. 24 W.; USGS Elsey topographic quadrangle; latitude 36 degrees 49 minutes 28 seconds N.; longitude 93 degrees 30 minutes 24 seconds W.; UTM coordinates 4,075,520 meters N. and 454,820 meters E.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine roots; 45 percent subrounded chert gravel and 5 percent subrounded chert cobbles; slightly acid; clear smooth boundary.

BA—6 to 11 inches; brown (7.5YR 4/4) very gravelly silt loam; weak very fine subangular blocky structure; friable; many fine roots; common distinct discontinuous very dark grayish brown (10YR 3/2) organic coats on faces of peds; 31 percent subrounded chert gravel and 5 percent subrounded chert cobbles; slightly acid; clear smooth boundary.

Bt1—11 to 18 inches; brown (7.5YR 4/4) very gravelly silt loam; weak very fine and fine subangular blocky structure; friable; many fine roots; very few distinct discontinuous brown (7.5YR 4/4) clay films on faces of peds and in pores; 40 percent subrounded chert gravel and 10 percent subrounded chert cobbles; slightly acid; clear smooth boundary.

Bt2—18 to 29 inches; reddish brown (5YR 4/4) extremely gravelly silt loam; weak very fine and fine subangular blocky structure; friable; common fine roots; very few distinct discontinuous reddish brown (5YR 4/4) clay films on faces of peds; 50 percent subrounded chert gravel and 15 percent subrounded chert cobbles; slightly acid; gradual smooth boundary.

Bt3—29 to 36 inches; reddish brown (5YR 4/4) very gravelly silt loam; weak very fine subangular blocky

structure; friable; common fine roots; common distinct discontinuous black stains on faces of peds and few faint discontinuous reddish brown (5YR 4/4) clay films on faces of peds; 47 percent subrounded chert gravel and 5 percent subrounded chert cobbles; strongly acid; abrupt wavy boundary.

**Btb**—36 to 60 inches; dark reddish brown (5YR 3/4) extremely gravelly silty clay loam; moderate fine subangular blocky structure; firm; common fine roots; few distinct discontinuous dark reddish brown (5YR 3/4) clay films on faces of peds; 60 percent subrounded chert gravel and 10 percent subrounded chert cobbles; moderately acid.

### **Range in Characteristics**

*Depth to bedrock:* More than 60 inches

*Other distinctive soil features:* Where the chroma is more than 4 in the lower horizons, the hue is 10YR; chroma of 2 colors are relict and do not indicate wetness

*Reaction:* Neutral to strongly acid throughout

*A or Ap horizon:*

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2, 3, 4, or 6

Content of rock fragments—5 to 50 percent; 5 to 50 percent gravel and 0 to 15 percent cobbles

*E and BE horizons (where present):*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—30 to 45 percent

*BA horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—15 to 50 percent; 15 to 50 percent gravel and 0 to 20 percent cobbles

*Bt horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 4 or 6

Texture of the fine-earth fraction—silt loam or silty clay loam

Content of rock fragments—35 to 80 percent; 35 to 80 percent gravel and 0 to 40 percent cobbles

*Btb horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—loam, silt loam, clay loam, silty clay loam, sandy clay loam, silty clay, or clay

Content of rock fragments—50 to 85 percent; 50 to 85 percent gravel and 0 to 45 percent cobbles

*2Bt horizon (where present):*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—loam, silt loam, clay loam, silty clay loam, sandy clay loam, silty clay, or clay

Content of rock fragments—25 to 85 percent; 25 to 85 percent gravel and 0 to 20 percent cobbles

### **Pomme Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Structural bench, strath terrace, or footslope on plateau

*Position on the landform:* Shoulder, summit, backslope, or toeslope

*Parent material:* Loess over gravelly colluvium over residuum weathered from cherty limestone

*Slope range:* Gently sloping (2 to 5 percent)

*Elevation:* 900 feet

*Taxonomic class:* Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs

### **Typical Pedon**

Pomme silt loam, 2 to 5 percent slopes, in a pasture; 3,050 feet east and 5,300 feet north of the southwest corner of sec. 2, T. 34 N., R. 23 W.; USGS Cliquot topographic quadrangle; latitude 37 degrees 42 minutes 48 seconds N.; longitude 93 degrees 24 minutes 57 seconds E.; UTM coordinates 4,173,980 meters N. and 463,300 meters E.

**A**—0 to 7 inches; brown (7.5YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; many fine roots; 5 percent subrounded chert gravel; moderately acid; clear smooth boundary.

**Bt1**—7 to 19 inches; yellowish red (5YR 4/6) silty clay loam; moderate very fine subangular blocky structure; firm; many fine roots; common distinct red (2.5YR 4/6) clay films on faces of peds; 5 percent subrounded chert gravel; slightly acid; gradual smooth boundary.

**2Bt2**—19 to 57 inches; red (2.5YR 4/6) very gravelly silty clay loam; moderate fine subangular blocky structure; firm; common fine roots; common distinct clay films and few prominent reddish yellow (5YR 6/6) silt coats on faces of peds; 55 percent subrounded chert gravel; strongly acid; clear wavy boundary.

**3Bt3**—57 to 86 inches; yellowish red (5YR 5/8) and reddish yellow (5YR 6/8) extremely gravelly clay;

moderate coarse subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; few manganese or iron-manganese stains and common fine masses of iron-manganese accumulation; 2 percent sandstone cobbles and 70 percent dolostone gravel; very strongly acid.

### ***Range in Characteristics***

*Thickness of the ochric epipedon:* 6 to 11 inches

*Depth to the argillic horizon:* 6 to 11 inches

#### *A horizon:*

Color—hue of 7.5YR or 10YR, value of 4, and chroma of 2 or 3

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 10 percent

Reaction—neutral to moderately acid

#### *Ap horizon (where present):*

Color—hue of 10YR, value of 3 or 4, and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 10 percent

Reaction—neutral to strongly acid

#### *Bt horizon:*

Color—hue of 2.5YR, 5YR, or 7.5YR, value of 3 or 4, and chroma of 4 or 6

Texture of the fine-earth fraction—silt loam, clay loam, or silty clay loam

Content of rock fragments—5 to 35 percent

Reaction—neutral to moderately acid

#### *2Bt horizon:*

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 4 or 6

Texture of the fine-earth fraction—silty clay loam, silty clay, or clay

Content of rock fragments—4 to 70 percent

Reaction—slightly acid to strongly acid

#### *3Bt horizon:*

Color—hue of 5YR, value of 5 or 6, and chroma of 8

Texture of the fine-earth fraction—clay

Content of rock fragments—50 to 75 percent

Reaction—neutral to very strongly acid

### ***Rueter Series***

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Landform:* Hillside on plateau

*Position on the landform:* Backslope or shoulder

*Parent material:* Local colluvium over residuum weathered from cherty limestone

*Slope range:* Strongly sloping to very steep (8 to 60 percent)

*Elevation:* 1,270 feet

*Taxonomic class:* Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs

### ***Typical Pedon***

Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, in a pasture; 450 feet west and 850 feet south of the northeast corner of sec. 33, T. 26 N, R. 24 W.; USGS Crane topographic quadrangle; latitude 36 degrees 55 minutes 11 seconds N.; longitude 93 degrees 33 minutes 35 seconds W.; UTM coordinates 4,085,900 meters N. and 450,200 meters E.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly silt loam; weak fine granular structure; friable; many very fine and fine roots throughout; 40 percent subrounded chert gravel; slightly acid; abrupt smooth boundary.

E—2 to 8 inches; grayish brown (10YR 5/2) very gravelly silt; weak very fine granular structure; friable; many very fine and fine roots throughout; 50 percent subrounded chert gravel; slightly acid; clear smooth boundary.

BE—8 to 18 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak very fine subangular blocky structure; friable; many very fine and fine roots throughout; common distinct discontinuous grayish brown (10YR 5/2) silt coatings on faces of peds and in pores; 60 percent subrounded chert gravel; neutral; gradual wavy boundary.

Bt1—18 to 32 inches; 55 percent yellowish brown (10YR 5/4) and 45 percent brown (10YR 5/3) extremely gravelly silt loam; weak very fine subangular blocky structure; friable; many very fine and fine roots throughout; few distinct discontinuous yellowish brown (10YR 5/4) clay films on faces of peds; 70 percent subrounded chert gravel; slightly acid; clear wavy boundary.

Bt2—32 to 48 inches; 60 percent light yellowish brown (10YR 6/4) and 40 percent yellowish brown (10YR 5/6) extremely gravelly silt loam; weak very fine and fine subangular blocky structure; friable; common fine roots throughout and common very fine roots between peds; common distinct discontinuous light yellowish brown (10YR 6/4) clay films on faces of peds and common distinct discontinuous clay films on rock fragments; 85 percent subrounded chert gravel; slightly acid; clear wavy boundary.

2Bt3—48 to 60 inches; 80 percent dark red (2.5YR 3/6), 10 percent yellowish brown (10YR 5/4), and 10 percent light yellowish brown (10YR 6/4) extremely gravelly clay; weak very fine and fine subangular

blocky structure; friable; common very fine roots throughout; common distinct discontinuous dark red (2.5YR 3/6) clay films on faces of peds; 70 percent subangular chert gravel; strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to argillic horizon:* 6 to 40 inches

*Surface cover:* 0 to .1 percent stones

#### ***A or Ap horizon:***

Color—value of 3, 4, or 5 and chroma of 1, 2, 3, or 4

Texture of the fine-earth fraction—loam, silt loam, or silt

Content of rock fragments—15 to 80 percent; 15 to 80 percent gravel and 0 to 15 percent cobbles

Reaction—moderately acid to very strongly acid

#### ***E and BE horizons:***

Color—value of 4, 5, 6, or 7 and chroma of 2, 3, or 4

Texture of the fine-earth fraction—loam, silt loam, or silt

Content of rock fragments—15 to 80 percent; 15 to 80 percent gravel and 0 to 15 percent cobbles

Reaction—neutral to very strongly acid

#### ***Bt horizon:***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 3, 4, 6, or 8

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, clay loam, sandy clay loam, or fine sandy loam

Content of rock fragments—25 to 85 percent; 25 to 85 percent gravel, 0 to 50 percent cobbles, and 0 to 50 percent stones

Reaction—moderately acid to extremely acid

#### ***2Bt horizon and 3Bt horizon (where present):***

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, 6, or 7, and chroma of 1, 2, 3, 4, 6, or 8

Texture of the fine-earth fraction—silty clay loam, silty clay, or clay

Content of rock fragments—15 to 85 percent; 15 to 85 percent gravel, 0 to 40 percent cobbles, and 0 to 40 percent stones

Reaction—moderately acid to very strongly acid

### ***Scholten Series***

*Root restrictive depth:* Moderately deep (18 to 27 inches)

*Drainage class:* Moderately well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Shoulder, backslope, or summit

*Parent material:* Gravelly colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope range:* Moderately sloping (3 to 8 percent)

*Elevation:* 1,320 feet

*Taxonomic class:* Loamy-skeletal, siliceous, active, mesic Typic Fragiudults

### ***Typical Pedon***

Scholten gravelly silt loam, 3 to 8 percent slopes, in hayland; 2,600 feet south and 450 feet west of the northeast corner of sec. 2, T. 26 N., R. 23 W.; latitude 36 degrees 59 minutes 9 seconds N.; longitude 93 degrees 24 minutes 47 seconds W.; UTM coordinates 4,093,170 meters N. and 463,320 meters E.

Ap—0 to 8 inches; brown (10YR 4/3) very gravelly silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; many very fine and fine roots throughout; 33 percent chert gravel and 2 percent chert cobbles; slightly acid; abrupt smooth boundary.

BE—8 to 12 inches; yellowish brown (10YR 5/6) very gravelly silt loam; weak very fine subangular blocky structure; friable; many very fine and fine roots throughout; common brown (10YR 5/3) skeletalans on faces of peds; 10 percent chert cobbles and 27 percent chert gravel; neutral; clear smooth boundary.

Bt—12 to 19 inches; strong brown (7.5YR 4/6) very gravelly silty clay loam; moderate very fine and fine subangular blocky structure; friable; many very fine and fine roots throughout; few faint discontinuous strong brown (7.5YR 4/6) clay films on faces of peds and very few distinct discontinuous pale brown (10YR 6/3) skeletalans on faces of peds; 10 percent chert cobbles and 40 percent chert gravel; neutral; abrupt wavy boundary.

2Btx—19 to 34 inches; dark yellowish brown (10YR 4/4) extremely gravelly silt loam; weak thin platy structure; hard, brittle; few very fine roots in cracks; few faint discontinuous dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores and common prominent continuous light gray (10YR 7/2) skeletalans on faces of peds and in pores; 10 percent chert cobbles and 70 percent chert gravel; very strongly acid; abrupt wavy boundary.

3Bt1—34 to 47 inches; 80 percent dark red (2.5YR 3/6) and 20 percent dark yellowish brown (10YR 4/4) very gravelly clay; moderate fine subangular blocky structure; firm; few very fine roots throughout; many distinct continuous dark red (2.5YR 3/6) and common distinct continuous dark yellowish brown

(10YR 4/6) clay films on faces of peds; 10 percent chert cobbles and 40 percent chert gravel; very strongly acid; gradual smooth boundary.

3Bt2—47 to 60 inches; 50 percent dark yellowish brown (10YR 4/4), 40 percent red (2.5YR 4/8), and 10 percent gray (10YR 6/1) very gravelly clay; moderate very fine and fine subangular blocky structure; firm; many distinct continuous red (2.5YR 4/8) clay films on faces of peds; 37 percent chert gravel and 5 percent chert cobbles; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to fragipan:* 18 to 27 inches

*Other distinctive soil features:* Control section averages more than 35 percent rock fragments; some pedons have clay depletions with chroma of 2 or less in the lower Bt horizon

*A or Ap horizon:*

Color—value of 3, 4, or 5 and chroma of 2 or 3

Texture of the fine-earth fraction—silt loam, loam, or silt

Content of rock fragments—5 to 65 percent; 5 to 65 percent gravel and 0 to 5 percent cobbles

Reaction—neutral to very strongly acid

*E horizon (where present):*

Color—value of 4, 5, or 6 and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam, silt, or loam

Content of rock fragments—10 to 65 percent; 10 to 65 percent gravel and 0 to 10 percent cobbles

Reaction—neutral to very strongly acid

*BE horizon:*

Color—hue of 10YR, value of 4 or 5, and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—silt loam or silt

Content of rock fragments—10 to 65 percent; 10 to 65 percent gravel and 0 to 10 percent cobbles

Reaction—neutral to strongly acid

*Bt horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam or silty clay loam

Content of rock fragments—10 to 75 percent; 10 to 75 percent gravel and 0 to 20 percent cobbles

Reaction—neutral to extremely acid

*Bx and Btx horizons (where present) and 2Btx horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 3, 4, or 6; clay

depletions have value of 5, 6, or 7 and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, clay loam, or silty clay loam

Content of rock fragments—15 to 85 percent; 15 to 85 percent gravel and 0 to 20 percent cobbles

Reaction—moderately acid to extremely acid

*2Bt horizon (where present) and 3Bt horizon:*

Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, 5, or 6, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silty clay, clay, silty clay loam, or clay loam

Content of rock fragments—15 to 85 percent; 15 to 85 percent gravel and 0 to 10 percent cobbles

Reaction—very strongly acid or extremely acid

### ***Sonsac Series***

*Root restrictive depth:* Moderately deep (20 to 40 inches)

*Drainage class:* Well drained

*Landform:* Structural bench or hillside on plateau and interfluvium on basin

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Gravelly colluvium over gravelly residuum weathered from cherty limestone or dolostone

*Slope range:* Moderately sloping and strongly sloping (3 to 15 percent)

*Elevation:* 1,000 feet

*Taxonomic class:* Clayey-skeletal, mixed, active, mesic Typic Hapludalfs

### ***Typical Pedon***

Gobbler-Sonsac complex, 8 to 15 percent slopes, stony, in a forest; 500 feet north and 1,250 feet east of the southwest corner of sec. 36, T. 23 N., R. 23 W.; USGS Reeds Spring topographic quadrangle; latitude 36 degrees 38 minutes 4 seconds N.; longitude 93 degrees 22 minutes 26 seconds W.; UTM coordinates 4,054,386 meters N. and 466,574 meters E.

A—0 to 5 inches; dark brown (10YR 3/3) gravelly silt loam; weak very fine and fine granular structure; friable; many very fine, fine, and medium roots throughout; 25 percent subrounded chert gravel; slightly acid; clear smooth boundary.

BE—5 to 10 inches; brown (10YR 4/3) very gravelly silt loam; weak very fine and fine granular structure; friable; common very fine and many fine and medium roots throughout; few faint discontinuous skeletal on faces of peds and many faint continuous dark brown (10YR 3/3) organic coats on

faces of peds; 35 percent subrounded chert gravel; moderately acid; clear smooth boundary.

Bt1—10 to 13 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak very fine and fine subangular blocky structure; friable; common very fine and many fine and medium roots throughout; few faint discontinuous brown (10YR 5/3) skeletons on faces of peds and few distinct discontinuous dark yellowish brown (10YR 4/4) clay films on faces of peds; 50 percent subrounded chert gravel and 5 percent subangular chert cobbles; very strongly acid; clear smooth boundary.

Bt2—13 to 19 inches; reddish brown (5YR 4/4) very gravelly clay; moderate very fine subangular blocky structure; firm; common very fine, fine, and medium roots throughout; common distinct discontinuous reddish brown (5YR 4/4) clay films on faces of peds; 50 percent subrounded chert gravel and 5 percent subangular chert cobbles; moderately acid; clear wavy boundary.

2Bt3—19 to 27 inches; yellowish red (5YR 4/6) clay; moderate very fine and fine subangular blocky structure; firm; common very fine, fine, and medium roots throughout; common distinct discontinuous yellowish red (5YR 4/6) clay films on faces of peds and common distinct discontinuous strong brown (7.5YR 5/6) iron stains on faces of peds; common fine rounded black (N 2/0) masses of iron-manganese accumulation between peds; 10 percent subangular chert gravel and 2 percent subangular chert cobbles; moderately acid; abrupt wavy boundary.

R—27 inches; limestone.

### ***Range in Characteristics***

*Depth to bedrock:* 20 to 40 inches

*Surface cover:* 0 to 3 percent stones or rock outcrop

*Other distinctive soil features:* Control section averages more than 35 percent rock fragments; some pedons have a 2BC, 2C, or 2Cr horizon that is highly variable in color and texture

#### ***A or Ap horizon:***

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3

Content of rock fragments—2 to 60 percent; 2 to 60 percent gravel, 0 to 40 percent cobbles, 0 to 40 percent flagstones, and 0 to 8 percent stones

Reaction—moderately alkaline to strongly acid

#### ***E horizon (where present):***

Color—hue of 10YR, value of 5 or 6, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam

Content of rock fragments—2 to 80 percent; 2 to 65 percent gravel, 0 to 40 percent cobbles, 0 to 40 percent flagstones, and 0 to 8 percent stones

Reaction—slightly acid to strongly acid

#### ***BA horizon (where present) and BE horizon:***

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2, 3, 4, or 6

Texture of the fine-earth fraction—silt loam

Content of rock fragments—2 to 70 percent; 2 to 60 percent gravel, 0 to 50 percent cobbles, 0 to 50 percent flagstones, and 0 to 8 percent stones

Reaction—neutral to strongly acid

#### ***Bt horizon:***

Color—hue of 7.5YR or 10YR, value of 3, 4, or 5, and chroma of 3, 4, or 6

Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam

Content of rock fragments—5 to 80 percent; 5 to 80 percent gravel, 0 to 40 percent cobbles, 0 to 40 percent flagstones, 0 to 8 percent stones

Reaction—moderately alkaline to very strongly acid

#### ***2Bt horizon:***

Color—hue of 2.5YR, 5YR, 7.5YR, 10YR, or 2.5Y, value of 3, 4, 5, 6, 7, or 8, and chroma of 2, 3, 4, 6, or 8 (hue of 2.5Y and chroma of 2 colors are relict and do not indicate wetness)

Texture of the fine-earth fraction—silty clay or clay

Content of rock fragments—5 to 80 percent; 5 to 80 percent gravel, 0 to 45 percent cobbles, 0 to 45 percent flagstones, and 0 to 10 percent stones

Reaction—moderately alkaline to strongly acid

### ***Sowcoon Series***

*Root restrictive depth:* Deep (40 to 60 inches)

*Drainage class:* Somewhat poorly drained

*Landform:* Sinkhole on plateau

*Position on the landform:* Toeslope

*Parent material:* Local colluvium over loess or sediments

*Slope range:* Level to very gently sloping (0 to 3 percent)

*Elevation:* 1,359 feet

*Taxonomic class:* Fine-silty, mixed, active, mesic Fragiatic Paleudults

### ***Typical Pedon***

Sowcoon silt loam, 0 to 3 percent slopes, frequently ponded, in a pasture; 2,415 feet east and 2,455 feet north of the southwest corner of sec. 23, T. 21 N., R. 23 W.; USGS Lampe topographic quadrangle; latitude 36

degrees 30 minutes 31 seconds N.; longitude 93 degrees 23 minutes 45 seconds W.; UTM coordinates 4,040,436 meters N. and 464,555 meters E.

A—0 to 4 inches; dark yellowish brown (10YR 4/4) silt loam; weak thick platy and moderate fine and medium granular structure; firm; many very fine and fine roots; few distinct discontinuous brown (10YR 5/3) skeletalans on faces of peds and few distinct discontinuous strong brown (7.5YR 5/6) iron stains on faces of peds; common fine rounded black (N 2/0) iron-manganese concretions between peds; strongly acid; clear smooth boundary.

BE—4 to 9 inches; dark yellowish brown (10YR 4/4) silt loam; moderate very fine and fine subangular blocky structure; friable; common very fine and fine roots; very few distinct discontinuous brown (10YR 5/3) skeletalans on faces of peds and very few distinct discontinuous strong brown (7.5YR 5/6) iron stains on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; moderately acid; clear smooth boundary.

Bt1—9 to 18 inches; brown (10YR 4/3) silt loam; weak very fine and fine subangular blocky structure; friable; common fine, medium, and coarse roots; very few distinct discontinuous strong brown (7.5YR 5/6) iron stains on faces of peds, very few faint discontinuous brown (10YR 5/3) skeletalans on faces of peds, and few distinct discontinuous brown (10YR 4/3) clay films on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; moderately acid; clear smooth boundary.

Bt2—18 to 28 inches; brown (10YR 4/3) silt loam; moderate very fine and fine subangular blocky structure; friable; few fine roots; very few distinct discontinuous brown (10YR 4/3) clay films on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds and few fine irregular grayish brown (10YR 5/2) clay depletions throughout; strongly acid; clear smooth boundary.

2Bt3—28 to 34 inches; very dark gray (10YR 3/1) silt loam; moderate very fine and fine subangular blocky structure; friable; few fine roots; few distinct discontinuous very dark gray (10YR 3/1) clay films on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; strongly acid; abrupt smooth boundary.

2Btg—34 to 45 inches; light olive brown (2.5Y 5/3) silt loam; moderate fine subangular blocky structure; firm; few distinct discontinuous light olive brown (2.5Y 5/3) clay films on faces of peds and few distinct discontinuous light brownish gray (10YR 6/2) skeletalans on faces of peds; few fine rounded

black (N 2/0) iron-manganese concretions between peds; strongly acid; abrupt smooth boundary.

2Btgx—45 to 60 inches; light olive brown (2.5Y 5/3) silt loam; strong fine and medium subangular blocky structure parting to strong fine angular blocky; hard, brittle; common distinct discontinuous dark yellowish brown (10YR 4/4) clay films on faces of peds and few distinct discontinuous light brownish gray (10YR 6/2) skeletalans on faces of peds; few fine rounded black (N 2/0) iron-manganese concretions between peds; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to fragipan:* 40 to 60 inches

*Other distinctive soil features:* Some pedons have an E horizon

#### ***A or Ap horizon:***

Color—value of 4 or 5 and chroma of 2, 3, or 4

Texture of the fine-earth fraction—silt loam or silt

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral to very strongly acid

#### ***BA horizon (where present) and BE horizon:***

Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2, 3, or 4; clay depletions (where present) have hue of 10YR, value of 6, and chroma of 2

Texture of the fine-earth fraction—silt loam or silt

Content of rock fragments—0 to 10 percent gravel

Reaction—slightly acid to very strongly acid

#### ***Bt and 2Bt horizons and Btx horizon (where present):***

Color—hue of 7.5YR or 10YR, value of 3, 4, 5, or 6, and chroma of 1, 2, 3, or 4; clay depletions (where present) have hue of 10YR, value of 5, 6, or 7, and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam or silty clay loam

Content of rock fragments—0 to 20 percent gravel

Reaction—moderately acid to very strongly acid

#### ***2Btg and 2Btgx horizons and 2Egx horizon (where present):***

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4, 5, or 6, and chroma of 2 or 3; clay depletions have hue of 10YR or 2.5Y, value of 6, 7, or 8, and chroma of 1 or 2

Texture of the fine-earth fraction—silt loam, silty clay loam, or silty clay

Content of rock fragments—0 to 40 percent gravel

Reaction—strongly acid or very strongly acid

## ***Tonti Series***

*Root restrictive depth:* Moderately deep (15 to 31 inches)

*Drainage class:* Moderately well drained

*Landform:* Interfluvium on plateau

*Position on the landform:* Backslope, shoulder, or summit

*Parent material:* Loamy colluvium over slope alluvium over residuum weathered from cherty limestone

*Slope range:* Very gently sloping to moderately sloping (1 to 8 percent)

*Elevation:* 1,380 feet

*Taxonomic class:* Fine-loamy, mixed, active, mesic Typic Fragiudults

### ***Typical Pedon***

Tonti silt, 1 to 3 percent slopes, in hayland; 1,250 feet north and 1,100 feet east of the southwest corner of sec. 16, T. 26 N., R. 24 W.; USGS Crane topographic quadrangle; latitude 36 degrees 57 minutes 17 seconds N.; longitude 93 degrees 34 minutes 15 seconds W.; UTM coordinates 4,089,800 meters N. and 446,350 meters E.

Ap—0 to 5 inches; 55 percent brown (10YR 4/3) and 45 percent yellowish brown (10YR 5/4) silt; weak fine granular structure; friable; common medium and many very fine and fine roots throughout; 10 percent subrounded chert gravel; slightly acid; abrupt smooth boundary.

BE—5 to 10 inches; yellowish brown (10YR 5/4) gravelly silt; weak very fine subangular blocky structure; friable; many very fine and fine roots throughout; few distinct discontinuous brown (10YR 4/3) organic coats on faces of peds; 25 percent subrounded chert gravel; neutral; clear smooth boundary.

Bt1—10 to 17 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure; friable; many very fine and fine roots throughout; few distinct discontinuous brown (10YR 5/3) organic coats on faces of peds and very few distinct discontinuous yellowish brown (10YR 5/6) clay films on faces of peds; 20 percent subrounded chert gravel; neutral; clear smooth boundary.

Bt2—17 to 21 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure; firm; many very fine and fine roots throughout; few distinct discontinuous yellowish brown (10YR 5/6) clay films on faces of peds and in pores; few fine rounded black (N 2/0) masses of iron-manganese accumulation between peds; 25 percent subrounded chert gravel; slightly acid; clear smooth boundary.

Bt3—21 to 27 inches; yellowish brown (10YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; firm; many very fine and fine roots throughout; few distinct discontinuous strong brown (7.5YR 5/6) clay films on faces of peds and few distinct discontinuous pale brown (10YR 6/3) skeletons on faces of peds and in pores; few fine rounded black (N 2/0) masses of iron-manganese accumulation between peds; 35 percent subrounded chert gravel; strongly acid; abrupt wavy boundary.

2Btx—27 to 38 inches; 40 percent light brownish gray (10YR 6/2) and 60 percent yellowish brown (10YR 5/6) extremely gravelly silt loam; massive; hard, brittle; common very fine roots in cracks; very few distinct discontinuous dark yellowish brown (10YR 4/6) and dark gray (10YR 4/1) clay films on vertical faces of peds and very few prominent discontinuous dark brown (7.5YR 3/4) clay films on vertical faces of peds; 65 percent subangular chert gravel; very strongly acid; abrupt wavy boundary.

3Bt—38 to 60 inches; red (2.5YR 4/6) very gravelly clay; weak medium subangular blocky structure parting to moderate fine subangular blocky; firm; common very fine roots between peds; common distinct discontinuous dark red (2.5YR 3/6) and very few distinct discontinuous dark gray (10YR 4/1) clay films on faces of peds and few prominent discontinuous yellowish brown (10YR 5/4) clay films on faces of peds and in pores; 60 percent subangular chert gravel; very strongly acid.

### ***Range in Characteristics***

*Depth to bedrock:* More than 60 inches

*Depth to fragipan:* 15 to 31 inches

*Other distinctive soil features:* Total rock fragment content ranges from 10 to 35 percent above the fragipan; cobbles range from 0 to 10 percent;

*A or Ap horizon:*

Color—value of 3 or 4 and chroma of 1, 2, or 3 or value of 5 and chroma of 3 or 4 (where the color value is 3, the horizon is less than 6 inches thick)

Texture of the fine-earth fraction—silt or silt loam

Reaction—slightly acid to very strongly acid

*BA horizon (where present) and BE horizon:*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6

Texture of the fine-earth fraction—silt or silt loam

Reaction—neutral to very strongly acid

*Bt horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silt loam or silty clay loam; some pedons have clay depletions just above the fragipan with hue of 10YR, value of 6, and hue of 2

Reaction—neutral to extremely acid

*2Btx horizon and Btx and 2Ex horizons (where present):*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 3, 4, 6, or 8; clay depletions (where present) have hue of 10YR, value of 6, and chroma of 1 or 2

Texture of the fine-earth fraction—loam, silt loam, or silty clay loam

Content of rock fragments—20 to 85 percent; 20 to 85 percent gravel and 0 to 60 percent cobbles

Reaction—strongly acid to extremely acid

*3Bt horizon:*

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3, 4, or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—loam, silty clay loam, silty clay, or clay

Content of rock fragments—20 to 90 percent; 20 to 90 percent gravel and 0 to 20 percent cobbles

Reaction—strongly acid to extremely acid

## **Waben Series**

*Root restrictive depth:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Landform:* Alluvial fan on plateau

*Position on the landform:* Footslope or toeslope

*Parent material:* Colluvium or alluvium

*Slope range:* Moderately sloping and strongly sloping (3 to 15 percent)

*Elevation:* 1,120 feet

*Taxonomic class:* Loamy-skeletal, siliceous, active, mesic Ultic Hapludalfs

### **Typical Pedon**

Waben extremely gravelly silt loam, 8 to 15 percent slopes, in a pasture; 800 feet east and 275 feet north of the southwest corner of sec. 2, T. 25 N., R. 24 W.; USGS Crane topographic quadrangle; latitude 36 degrees 53 minutes 35 seconds N.; longitude 93 degrees 32 minutes 10 seconds W.; UTM coordinates 4,082,920 meters N. and 452,145 meters E.

A—0 to 5 inches; dark brown (10YR 3/3) extremely gravelly silt loam; moderate fine granular structure; friable; many very fine and fine roots; 70 percent chert gravel; very strongly acid; clear smooth boundary.

E—5 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly silt loam; weak fine granular

structure; friable; common medium and many fine roots; 65 percent chert gravel; strongly acid; clear smooth boundary.

BE—12 to 21 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent strong brown (7.5YR 4/6) extremely gravelly silt loam; weak fine subangular blocky structure; friable; common fine roots; 65 percent chert gravel; strongly acid; clear wavy boundary.

Bt1—21 to 28 inches; 90 percent strong brown (7.5YR 4/6) and 10 percent yellowish brown (10YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; common fine roots; few black stains and common faint strong brown (7.5YR 4/6) clay films on faces of peds; 70 percent chert gravel; very strongly acid; abrupt smooth boundary.

Bt2—28 to 38 inches; 90 percent yellowish brown (10YR 5/6) and 10 percent strong brown (7.5YR 4/6) gravelly silt loam; weak fine subangular blocky structure; firm; common fine roots; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; few discontinuous yellowish brown (10YR 5/4) skeletans on faces of peds; 20 percent chert gravel; very strongly acid; abrupt smooth boundary.

Bt3—38 to 50 inches; yellowish brown (10YR 5/6) extremely gravelly silt loam; weak very fine subangular blocky structure; firm; common distinct strong brown (7.5YR 4/6) clay films in root channels and/or pores and common faint yellowish brown (10YR 5/6) clay films on faces of peds; 70 percent chert gravel; very strongly acid; gradual smooth boundary.

Bt4—50 to 60 inches; yellowish brown (10YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; firm; common black stains and common distinct yellowish brown (10YR 5/6) clay films on faces of peds; 70 percent chert gravel; very strongly acid.

### **Range in Characteristics**

*Depth to bedrock:* More than 60 inches

*Other distinctive soil features:* Control section averages 18 to 35 percent clay and 35 to 70 percent rock fragments

*Reaction:* Slightly acid to very strongly acid throughout

*A horizon:*

Color—value of 3 or 4 and chroma of 2 or 3 (when the color value is 3, the horizon is less than 6 inches thick)

Texture of the fine-earth fraction—silt loam or loam  
Content of rock fragments—25 to 80 percent gravel

*Ap horizon (where present):*

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—25 to 80 percent gravel

*E horizon:*

Color—value of 4, 5, or 6 and chroma of 3 or 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—25 to 80 percent gravel

*BE horizon:*

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—25 to 80 percent

*Bt horizon:*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6

Texture of the fine-earth fraction—silt loam, loam, silty clay loam, or clay loam

Content of rock fragments—35 to 75 percent; 35 to 75 percent gravel and 0 to 20 percent cobbles (individual horizons may contain as few as 2 percent rock fragments)

*BC horizon (where present):*

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4, 6, or 8

Texture of the fine-earth fraction—silt loam or loam

Content of rock fragments—50 to 80 percent

**Woolly Series**

*Root restrictive depth:* Deep (40 to 60 inches)

*Drainage class:* Well drained

*Landform:* Flood plain

*Parent material:* Alluvium

*Slope range:* Level to gently sloping (0 to 5 percent)

*Elevation:* 960 feet

*Taxonomic class:* Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls

**Typical Pedon**

Cedargap-Woolly complex, 0 to 5 percent slopes occasionally flooded, in a pasture; 1,250 feet south and 100 feet east of the northwest corner of sec. 7, T. 23 N., R. 24 W.; latitude 36 degrees 42 minutes 57 seconds N.; longitude 93 degrees 34 minutes 32 seconds W.; UTM coordinates 4,063,580 meters N. and 448,495 meters E.

A1—0 to 5 inches; very dark gray (10YR 3/1) very gravelly clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; very friable; many very fine and fine roots throughout; 40 percent subrounded mixed gravel; slightly acid; clear smooth boundary.

A2—5 to 10 inches; very dark grayish brown (10YR 3/2) extremely gravelly sandy clay loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; many very fine and fine roots throughout; 70 percent subrounded mixed gravel; slightly acid; clear smooth boundary.

A3—10 to 27 inches; dark brown (10YR 3/3) extremely gravelly clay loam, dark brown (10YR 3/3) dry; weak very fine granular structure; very friable; many very fine and fine roots throughout; common faint discontinuous very dark grayish brown (10YR 3/2) organic coats on faces of peds; 60 percent subrounded mixed gravel and 20 percent subangular mixed cobbles; neutral; clear smooth boundary.

C1—27 to 32 inches; brown (10YR 4/3) extremely gravelly clay loam; massive; friable; many very fine and fine roots throughout; few faint discontinuous very dark grayish brown (10YR 3/2) organic coats on faces of peds; common fine rounded black (N 2/0) masses of iron manganese accumulation; 65 percent subrounded mixed gravel and 20 percent subrounded mixed cobbles; slightly alkaline; gradual smooth boundary.

C2—32 to 50 inches; brown (10YR 4/3) extremely gravelly clay loam; massive; friable; common very fine and fine roots throughout; common fine rounded black (N 2/0) masses of iron manganese accumulation; 75 percent subrounded mixed gravel and 13 percent subrounded mixed cobbles; slightly alkaline; abrupt wavy boundary.

R—50 inches; dolostone.

**Range in Characteristics**

*Depth to bedrock:* 40 to 60 inches

*Other distinctive soil features:* Mollic epipedon is 24 to 50 inches thick; particle-size control section averages 20 to 35 percent clay and 35 to 80 percent rock fragments

*Reaction:* Moderately alkaline to slightly acid throughout

*A or Ap horizon:*

Color—hue of 7.5YR or 10YR and chroma of 1, 2, or 3

Texture of the fine-earth fraction—clay loam or sandy clay loam

Content of rock fragments—15 to 80 percent; 15 to 80 percent gravel and 0 to 10 percent cobbles

*C horizon and 2C horizon (where present):*

Color—hue of 7.5YR or 10YR, value of 3 or 4, and  
chroma of 1, 2, 3, or 4

Texture of the fine-earth fraction—silt loam, loam,  
clay loam, coarse sandy loam, or silty clay

Content of rock fragments—35 to 85 percent; 35 to  
85 percent gravel, 0 to 20 percent cobbles, and  
0 to 10 percent flagstones

Table 21.--Classification of the Soils

Soil name	Family or higher taxonomic class
Alred-----	Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs
Blueye-----	Fine, mixed, active, mesic Typic Argiudolls
Britwater-----	Fine-loamy, mixed, active, mesic Typic Paleudalfs
Captina-----	Fine-silty, siliceous, active, mesic Typic Fragiudults
Cedargap-----	Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls
Clarksville-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Gasconade-----	Clayey-skeletal, mixed, superactive, mesic Lithic Hapludolls
Gobbler-----	Clayey-skeletal, mixed, active, mesic Typic Hapludalfs
Goss-----	Clayey-skeletal, mixed, active, mesic Typic Paleudalfs
Hailey-----	Loamy-skeletal, siliceous, superactive, mesic Typic Dystrudepts
Hootentown-----	Fine-silty, mixed, active, mesic Typic Paleudalfs
Horneybuck-----	Fine-loamy, mixed, active, mesic Aquic Paleudults
Horsecreek-----	Fine-silty, mixed, active, mesic Mollic Hapludalfs
Jamesfin-----	Fine-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Knobby-----	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Mano-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Moko-----	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Noark-----	Clayey-skeletal, mixed, semiactive, mesic Typic Paleudults
Ocie-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Pinerun-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludalfs
Pomme-----	Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs
Rueter-----	Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs
Scholten-----	Loamy-skeletal, siliceous, active, mesic Typic Fragiudults
Sonsac-----	Clayey-skeletal, mixed, active, mesic Typic Hapludalfs
Sowcoon-----	Fine-silty, mixed, active, mesic Fraguaquic Paleudults
Tonti-----	Fine-loamy, mixed, active, mesic Typic Fragiudults
Waben-----	Loamy-skeletal, siliceous, active, mesic Ultic Hapludalfs
Woolly-----	Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls

# Formation of the Soils

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This section relates the soils in the survey area to the major factors of soil formation. It also describes the geology and physiography and hydrology of the county.

## Factors of Soil Formation

Soils are continually changing. The characteristics of a soil at any given point are determined by the physical and mineralogical composition of the parent material; the living organisms on and in the soil; the climate under which the soil material accumulated and has existed since accumulation; the relief, or lay of the land; and the length of time these forces have been active.

## Parent Material

Parent material is the weathered mass from which soil forms. The soils in Stone County are formed in material weathered from limestone, dolostone, alluvium, colluvium, and loess, or a combination of these materials. Most soils in the county were derived from dolostone or limestone; both of these kinds of bedrock tend to weather to heavy clays.

The kind of bedrock and the rate of geologic erosion have affected soil formation to the extent that most of the soils can be divided between those on the Mississippian Formations and those on the Ordovician Formations. The Mississippian rocks are mostly limestone, and the Ordovician rocks are mostly dolostone. Mississippian Formations dominate the landscape in the northern part of the county. In the southern portion of the county, the Ordovician Formations dominate with the Mississippian Formations on the high ridges.

Captina, Clarksville, Horneybuck, Noark, Scholten, and Tonti soils are on ridge tops in the upper Mississippian Formations. Goss, Hailey, and Rueter soils are on side slopes in the upper Mississippian Formations. Blueeye soils are on side slopes, and Knobby soils are on grassy knobs of the lower Mississippian Formations. Gasconade, Gobbler, Moko, Ocie, and Sonsac soils are on the lower Mississippian and Ordovician Formations. Alred and Mano soils are on the Ordovician Formations.

Cedargap, Hootentown, Horsecreek, Jamesfin, Pinerun, and Woolly soils are formed in alluvium in the flood plains. Britwater soils are formed in alluvium on high, non-flooded terraces. Pomme soils are formed in alluvium or colluvium and residuum on strath terraces and structural benches. Waben soils are formed in colluvium at the base of slopes or alluvial fans.

## Living Organisms

Living organisms both in and on the soil have contributed to the alteration of parent material and the properties of the soil. Plants greatly influence soil formation.

Most of the soils in Stone County formed under forest vegetation; however, a portion formed under grass vegetation. The dark colored layers of the Gasconade, Knobby, and Moko soils are characteristic of native grass influence. They are too shallow to support good stands of hardwood vegetation. The dark color is indicative of organic matter, which is increased under grass vegetation. In Stone County, the type of native vegetation is controlled mainly by the soil depth and aspect. Soils that are deep or very deep support hardwood vegetation better than soils that are moderately deep or shallow by providing for deeper rooting. South- and west-facing slopes are more likely to have grass vegetation than north- and east-facing slopes.

## Climate

Climate has been a significant factor in the formation of soils in Stone County. The amount of precipitation has been high enough to leach nutrients, lowering natural fertility and acidifying the deeper soils. Climate has had a limited affect on soil diversity. However, there are some microclimate differences, such as temperature differences due to aspect, that affect soil diversity. South- and west-facing slopes are warmer and drier than north- and east-facing slopes. These conditions create a harsher microclimate for vegetative growth and affect the rate of soil formation and geological soil erosion, which determine soil accumulation and depth. Thus, soils on south and west

aspects are less likely to be as deep as soils on north- and east-facing slopes, with other factors being constant.

## Relief

The relief and landforms in Stone County are mainly the results of geologic water erosion, which dissected the original plateau, creating numerous ridges and valleys. The Tonti-Scholten association is the remnant of the original plateau. The gentle topography of this association is attributed to the similar topography of the original plateau and a lack of extensive geologic erosion, which would have resulted in dissection and a steeper topography.

Relief affects soil formation through its effect on erosion, climate, and other soil-forming factors. Slope influences the amount of runoff and the rate of water infiltration, which affects the rate of leaching, clay movement, and the thickness of soil horizons. Slope and aspect affect the soil temperature.

Relief has contributed significantly to the diversity of soils in Stone County. Captina and Tonti on the wider, flatter ridge tops are the upland soils with the least relief. Due to their gentle topography, these soils have retained a thin layer of loess over the residual soil, resulting in less gravel in the surface than other upland soils. Hailey and Rueter soils that are formed on steeper slopes have a higher quantity of rock fragments and a greater depth to clay.

## Time

Time is important only as it allows climate, living organisms, and relief to exert their influence on parent material. The degree to which soil-forming processes have changed the parent material determines the age of a soil. Thus, a soil's age is relative, depending on the degree of soil development rather than the number of years that the soil material has existed. The practical implication of soil aging is in how the changes in parent material affect a soil's productivity, use, and management.

Some soil properties that are used to determine aging in the soils in Stone County include the presence of an argillic horizon, fragipan development, and depth of weathering. Captina, Goss, and Noark are examples of older soils with an argillic horizon or a fragipan.

The youngest soils in Stone County formed in alluvial deposits. Cedargap, Jamesfin, and Woolly soils are examples of young soils.

## Geology and Physiography

Bill Whitfield, geologist, Department of Natural Resources, helped prepare this section.

Stone County is situated in two physiographic provinces—the prairie-like summits in the north, central, and southern parts of the county are in the Springfield Plateau; the narrow hills and rocky balds in the east and west-central portions of the county, bordering the White River, are remnants of the Salem Plateau. Separating the two provinces is the Eureka Springs Escarpment.

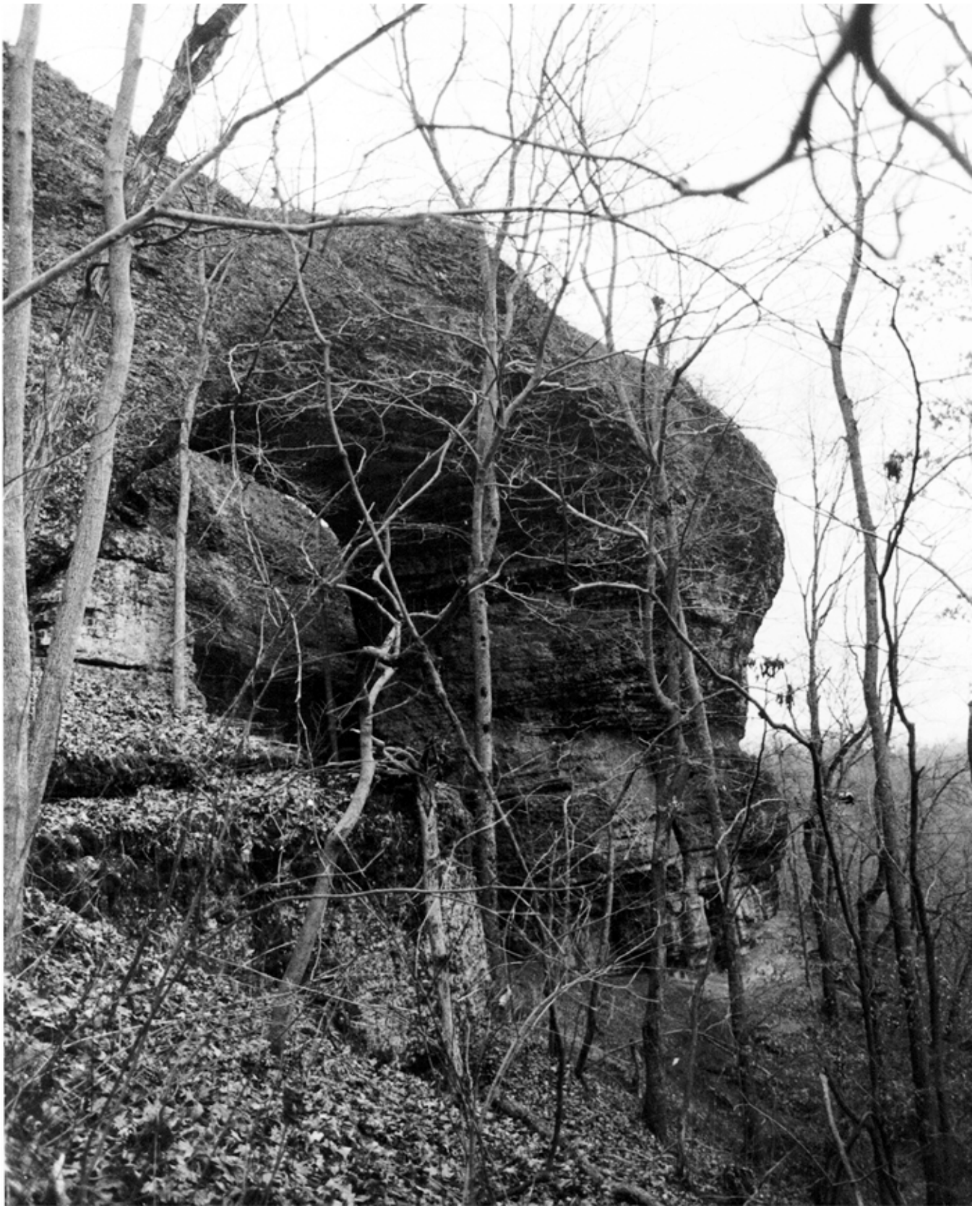
The bedrock in Stone County consists of flat to gently dipping, cherty limestone, cherty dolostone, and sandstone; thin shale beds are also present but outcrops are scarce. A slight regional dip of 1 degree to 3 degrees to the southwest has been altered in some places by local bedrock dip or faulting. At present, two fault systems have been identified in the county. The Lampe fault trends in a southwest-northeast direction across the southern part of the county. In places along the fault, bedrock has been vertically displaced over 100 feet. The Ten O'clock Run fault passes across the southeast corner of the county in a north-northwest trend. The fault, in some places, consists of two parallel faults with a mineralized area between them and vertical displacement of up to 100 feet in some areas.

## Geologic Formations

From oldest to youngest, the geologic formations in Stone County are Jefferson City-Cotter Dolostone, Bachelor Formation, Compton Formation, Northview Formation, Pierson Formation, Eley-Reeds Spring Formation, and Burlington-Keokuk Limestone.

In this survey, the Jefferson City-Cotter Dolostone is a combination of two separate formations, but due to their similar appearance, these formations have been combined. In Stone County, this unit consists of thin to massive bedded, crystalline dolostone and silty dolostone that contain chert and thin sandstone beds. The combined formations are approximately 700 feet thick. Outcrops of sandstone are generally less than a foot in thickness, and their presence is usually not noticeable, except as scattered sandstone boulders mixed with thin, cherty soils that cover the wooded hillsides (fig. 19).

Not to be overlooked is the Bachelor Formation, which overlies the Jefferson City-Cotter Dolostone. The Bachelor Formation is a thin, obscure shale or shale and sandstone, generally less than 6 inches thick. Exposures are rare due to its thinness, yet the unit is



**Figure 19.—Missouri's largest natural arch is on privately-owned land in an area of Gasconade-Rock outcrop complex, 50 to 90 percent slopes, in northern Stone County.**

persistent in its areal extent. The Bachelor Formation is of interest from a geologic viewpoint, but contributes very little to the soil and topography of Stone County.

A shale, several feet in thickness but noncontinuous in deposition, is infrequently present between the Jefferson City-Cotter Formation and the Bachelor sandstone. The shale (Chattanooga) is Devonian in age and rarely crops out.

On top of the Bachelor Formation is the Compton Formation, which consists of fine grained, light greenish-gray limestone, 10 to 20 feet thick. The limestone is thin to medium bedded and contains small fossil fragments. Outcrops of Compton Formation can be found near the tops of the rugged hillslopes of central and northern Stone County. Other than forming small stair step-like outcrops on hillsides, the Compton Formation contributes very little to the soil or topography.

The Northview Formation consists of less than a foot to 5 feet of green, silty shale to shaly limestone. In the upper part of the Northview Formation, there are several greenish-gray limestone beds interbedded with shale. The Northview Formation can be easily recognized in the field because of its clayey shale composition and distinct green color. Because of its clay composition and low permeability, vertical ground-water movement is impeded, and as a result, springs often occur on top of the Northview shale. Ground water moves laterally across the top of the shale and resurfaces as springs in drainages that intersect the shale.

The Pierson Formation usually crops out as a medium to massive bedded, brown, green, or sometimes brick red, brown limestone. The contact between the underlying Northview Formation and the Pierson Formation is not distinct because of the gradual lithologic change from shale to limestone. In Stone County, the Pierson Formation is generally 30 to 35 feet thick, and crops out near the tops of the rugged, wooded hills that border the White and James Rivers.

The Elsey and Reeds Spring Formations are actually separate formations, but because of lithologic similarity, the two formations are combined in this survey. This unit is composed of thin, alternating layers of limestone and chert. The chert layers are usually in the form of nodules or wavy beds of chert located between thin layers of limestone. Although quantitative measurements were not made, the chert content is estimated to be 50 to 75 percent. In Stone County, the combined thickness of the Elsey-Reeds Spring Formation is approximately 185 feet. Outcrops are present in all parts of the county, but they are most common on high summits overlooking the James and

White River valleys. Because of the high chert content, residual soils that develop from this unit are dominated by chert gravel and boulders. The residual soil thickness ranges from less than a foot to over 30 feet.

The Burlington Limestone and Keokuk Formation are recognized as separate formations, but because of their geologic similarities in southwest Missouri, they have been combined as a single unit. The Burlington-Keokuk Limestone consists of light gray, coarsely crystalline, thin to massive bedded, fossiliferous limestone, 100 to 150 feet thick. The middle and very lower portions of the limestone contain discontinuous bands of chert and chert nodules. Outcrops are not common.

The gravelly residuum produced from weathering of the Elsey-Reeds Spring Formation and Burlington-Keokuk Limestone forms a mantle from 30 to over 50 feet thick that covers summits and ridge tops. This residuum has a major influence on pedological conditions and, to a minor degree, topographic development in Stone County.

Sinkholes, losing streams, and caves are a common occurrence in Stone County. The geologic term for these features is karst. Karst features are a result of weathering in the underlying calcium-rich limestone. Over millions of years, ground water has percolated through fractures in the limestone and has slowly dissolved and enlarged the fractures until the bedrock contains a network of tunnels and caves. There are areas of karst near Reeds Spring and Blue Eye and the prairies in the north half of the county. These sites are situated on flat to gently rolling uplands underlain by thick, stony soil and cavernous limestone. The various-sized sinkholes and losing streams scattered over the upland karst areas are conduits to the underlying ground-water table. Surface water that enters sinkholes or losing streams will percolate downward through the permeable soils and bedrock openings and recharge the ground-water aquifer. The numerous water wells and springs that obtain water from the ground-water aquifer can be affected by the presence of contaminants in a sinkhole or losing stream.

Any type of development to be located in a karst area should be planned and engineered so that contaminants originating from the development will not affect the underlying ground-water supplies. Poorly planned livestock facilities, waste disposal lagoons, landfills, or closely-spaced septic tanks located on karst areas can have a rapid and drastic effect on the ground-water aquifer. Pollution of individual farm wells from agriculture activity will occur unless the wells are properly cased and sealed. Each site should receive special attention regarding the rock, soil, hydrology, and karst characteristics.

## Hydrology

Bedrock formations exposed in Stone County produce small amounts of ground water. The Burlington-Keokuk Limestone, Elsey-Reeds Spring Formation, and Pierson Formation produce from 1 gallon to 20 gallons of water per minute in shallow wells.

The Northview Formation is a clayey shale that forms a leaky aquitard in the area. It does not produce ground water, but numerous springs develop on top of the shale.

The Compton, Bachelor, and Cotter Formations produce minor amounts of water, but the quality has deteriorated due to contamination from the surface and poorly constructed and cased wells.

The major source for ground-water supplies in the county is dolostone in the Cambrian-Ordovician age formations. Several cities, industries, and large mobile home parks in the county obtain water supplies from wells over 1,000 feet deep that produce from 300 to over 1,000 gallons of water per minute.



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# Glossary

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**ABC soil.** A soil having an A, a B, and a C horizon.

**AC soil.** A soil having only an A and a C horizon.

Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Area reclaim** (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in

inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

**Backslope.** The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Backslopes in profile are commonly steep, are linear, and may or may not include cliff segments.

**Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

**Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

**Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

**Bedrock-floored plain.** An extensive nearly level to gently rolling or moderately sloping area that is

underlain by hard bedrock and has a slope of 0 to 8 percent.

**Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

**Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

**Board foot.** A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board 1 foot wide, 1 foot long, and 1 inch thick before finishing.

**Bottomland.** The normal flood plain of a stream, subject to flooding.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

**Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

**Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

**Canopy.** The leafy crown of trees or shrubs. (See Crown.)

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Cement rock.** Shaly limestone used in the manufacture of cement.

**Channeled.** Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material

**Channery soil material.** Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Clayey soil.** Silty clay, sandy clay, or clay.

**Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

**Clearcut.** A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from the adjacent stands.

**Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Closed depression.** A low area completely surrounded by higher ground and having no natural outlet.

**Coarse fragments.** Mineral or rock particles larger than 2 millimeters in diameter.

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that is 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**Codominant trees.** Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

**COLE (coefficient of linear extensibility).** See Linear extensibility.

**Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Commercial forest.** Forest land capable of producing 20 cubic feet or more per acre per year at the culmination of mean annual increment.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Compressible** (in tables). Excessive decrease in volume of soft soil under load.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

**Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock

fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

**Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Consolidated sandstone.** Sandstone that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry, are not easily crushed, and cannot be textured by the usual field method.

**Consolidated shale.** Shale that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry and are not easily crushed.

**Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Crown.** The upper part of a tree or shrub, including the living branches and their foliage.

**Culmination of the mean annual increment**

**(CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

**Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

**Deep soil.** A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Deep to water** (in tables). Deep to permanent water during the dry season.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

**Depth to bedrock** (in tables). Bedrock is too near the surface for the specified use.

**Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Dominant trees.** Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

**Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a

consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Drainageway.** An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

**Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

**Droughty** (in tables). Soil holds too little water for plants during dry periods.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a

perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erodes easily** (in tables). Soil is easily eroded by water.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

**Erosion** (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

**Erosion** (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Even aged.** Refers to a stand of trees in which only small differences in age occur between individual trees. A range of 20 years is allowed.

**Excess fines** (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

**Excess lime** (in tables). Excess carbonates in the soil that restrict the growth of some plants.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fast intake** (in tables). The rapid movement of water into the soil.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

**Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Firebreak.** Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

**First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.

**Flaggy soil material.** Material that is, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flooding** (in tables). Soil flooded by moving water from stream overflow or runoff.

**Flood plain.** The nearly level plain that borders a stream and is subject to frequent inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the streams.

**Flood-plain step.** An essentially flat, alluvial surface within a valley that is occasionally covered by floodwater from the present stream; any approximately horizontal surface occasionally modified by scour and/or deposition; may occur individually or as a series of steps.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragile** (in tables). A soil that is easily damaged by use or disturbance.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above.

When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

**Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that is 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hard to pack** (in tables). Difficult to compact using regular earthwork construction equipment.

**Head out.** To form a flower head.

**Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Heavy metal.** Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

**Highly erodible** (in tables). Soil has an erodibility index greater than 8 and is very susceptible to erosion by water.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer*.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Infrequent flooding** (in tables). Flooding occurs at an interval that limits riparian plant species.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net

irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluve.** An elevated area between two drainageways that sheds water to those drainageways.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Karst** (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**Ksat.** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Lake plain.** A surface marking the floor of an extinct lake, filled in by well sorted, stratified sediments.

**Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loamy soil.** Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low adsorption** (in tables). Low amounts of cations are adsorbed from wastes applied to the soil.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from

these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Low strength.** The soil is not strong enough to support loads.

**Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mean annual increment (MAI).** The average annual increase in volume of a tree during the entire life of the tree.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Merchantable trees.** Trees that are of sufficient size to be economically processed into wood products.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Micro-high.** An area that is 2 to 12 inches higher than the adjacent micro-low.

**Micro-low.** An area that is 2 to 12 inches lower than the adjacent micro-high.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately deep soil.** A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Morphology, soil.** The physical makeup of the soil,

including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

**Mountain.** A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low .....	less than 0.5 percent
Low .....	0.5 to 1.0 percent
Moderately low .....	1.0 to 2.0 percent
Moderate .....	2.0 to 4.0 percent
High .....	4.0 to 8.0 percent
Very high .....	more than 8.0 percent

**Overstory.** The trees in a forest that form the upper crown cover.

**Oxbow.** The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The downward movement of water through the soil.

**Percs slowly** (in tables). The slow movement of water through the soil adversely affects the specified use.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms

describing permeability, measured in inches per hour, are as follows:

Extremely slow .....	0.0 to 0.01 inch
Very slow .....	0.01 to 0.06 inch
Slow .....	0.06 to 0.2 inch
Moderately slow .....	0.2 to 0.6 inch
Moderate .....	0.6 inch to 2.0 inches
Moderately rapid .....	2.0 to 6.0 inches
Rapid .....	6.0 to 20 inches
Very rapid .....	more than 20 inches

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poor filter** (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Poor outlets** (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The

soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Quartzite, metamorphic.** Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.

**Quartzite, sedimentary.** Very hard but unmetamorphosed andstone consisting chiefly of quartz grains.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid .....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid .....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline .....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relict stream terrace.** One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

**Riser.** The relatively short, steeply sloping area below a terrace tread that grades to a lower terrace tread or base level.

**Riverwash.** Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Rock outcrop.** Exposures of bare bedrock other than lava flows and rock-lined pits.

**Rooting depth (in tables).** Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called groundwater runoff or seepage flow from ground water.

**Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

**Salinity.** The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline .....	0 to 4
Slightly saline .....	4 to 8
Moderately saline .....	8 to 16
Strongly saline .....	more than 16

**Salty water (in tables).** Water that is too salty for consumption by livestock.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sandy soil.** Sand or loamy sand.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sawlogs.** Logs of suitable size and quality for the production of lumber.

**Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

**Scribner's log rule.** A method of estimating the number of board feet that can be cut from a log of a given diameter and length.

**Seasonally ponded (in tables).** Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration. Generally occurs during the winter and early spring.

**Seasonal wetness (in tables).** The soil may be wet during the period of desired use. This usually occurs during the winter and early spring.

**Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.

**Sedimentary plain.** An extensive nearly level to gently rolling or moderately sloping area that is underlain by sedimentary bedrock and that has a slope of 0 to 8 percent.

**Sedimentary rock.** Rock made up of particles

deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Sedimentary uplands.** Land areas of bedrock formed from water- or wind-deposited sediments. They are higher on the landscape than the flood plain.

**Seepage** (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

**Semiconsolidated sedimentary beds.** Soft geologic sediments that disperse when fragments are placed in water. The fragments are hard or very hard when dry. Determining the texture by the usual field method is difficult.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Shallow soil.** A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shelterwood system.** A forest management system requiring the removal of a stand in a series of cuts so that regeneration occurs under a partial canopy. After regeneration, a final cut removes the shelterwood and allows the stand to develop in the open as an even-aged stand. The system is well suited to sites where shelter is needed for regeneration, and it can aid regeneration of the more intolerant tree species in a stand.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Shoulder slope.** The uppermost inclined surface at the top of a hillside. It is the transition zone from the backslope to the summit of a hill or mountain. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling

can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Sinkhole.** A depression in the landscape where limestone has been dissolved.

**Site class.** A grouping of site indexes into five to seven production capability levels. Each level can be represented by a site curve.

**Site curve (50-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 50 years old or are 50 years old at breast height.

**Site curve (100-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 100 years old or are 100 years old at breast height.

**Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

**Skid trails.** Pathways along which logs are dragged to a common site for loading onto a logging truck.

**Slash.** The branches, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

**Slippage** (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level .....	0 to 1 percent
Nearly level .....	0 to 2 percent
Very gently sloping .....	1 to 3 percent
Gently sloping .....	2 to 5 percent
Moderately sloping .....	3 to 8 percent
Strongly sloping .....	8 to 15 percent
Moderately steep .....	15 to 20 percent
Steep .....	20 to 35 percent
Very steep .....	35 percent and higher

Classes for complex slopes are as follows:

Level .....	0 to 1 percent
Nearly level .....	0 to 2 percent
Gently undulating .....	1 to 3 percent
Undulating .....	2 to 5 percent
Gently rolling .....	3 to 8 percent
Rolling .....	8 to 15 percent
Hilly .....	15 to 20 percent
Steep .....	20 to 35 percent
Very steep .....	35 percent and higher

**Slope** (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

**Slope/erodibility** (in tables). A combination of slope and susceptibility to water erosion may be restrictive in the use of this soil.

**Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

**Slow intake** (in tables). The slow movement of water into the soil.

**Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

**Small stones** (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

**Sodic (alkali) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Sodicity.** The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of  $\text{Na}^+$  to  $\text{Ca}^{++} + \text{Mg}^{++}$ . The degrees of sodicity and their respective ratios are:

Slight .....	less than 13:1
Moderate .....	13-30:1
Strong .....	more than 30:1

**Sodium adsorption ratio (SAR).** A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil reaction** (in tables). A measure of acidity or alkalinity of a soil, expressed in pH values, which indicates that the soil reaction is either too high or too low for the intended use.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Species.** A single, distinct kind of plant or animal having certain distinguishing characteristics.

**Stickiness (surface)** (in tables). The soil is slippery and sticky when wet and slow to dry.

**Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Strath terrace.** A surface cut formed by the erosion of hard or semiconsolidated bedrock and thinly mantled with stream deposits.

**Stream channel.** The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream, and representing the remnants of an old flood plain (i.e., rarely floods), streambed, or valley floor produced during a former state of fluvial erosion or deposition. Erosional surfaces cut into bedrock

and thinly mantled with stream deposits (alluvium) are called "strath terraces." Remnants of constructional valley floors thickly mantled with alluvium are called "alluvial terraces."

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the

next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Technically, the E horizon.

Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

**Subsurface layer.** Any subsurface soil horizon (A, E, AB, or EB) below the surface layer.

**Summit.** A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Tailwater.** The water directly downstream of a structure.

**Talus.** Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

**Taxadjuncts.** Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace** (geologic). A step-like surface, bordering a valley floor or shoreline, that represents the former position of a flood plain or lake or sea shore. The term is usually applied to both the relatively flat summit surface (tread), cut or built by stream or

wave action, and the steeper descending slope (scarp, riser), graded to a lower base level of erosion.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The textural classes are *C—clay, CL—clay loam, COS—coarse sand, COSL—coarse sandy loam, FS—fine sand, FSL—fine sandy loam, L—loam, LCOS—loamy coarse sand, LFS—loamy fine sand, LS—loamy sand, LVFS—loamy very fine sand, S—sand, SC—sandy clay, SCL—sandy clay loam, SI—silt, SIC—silty clay, SICL—silty clay loam, SIL—silt loam, SL—sandy loam, VFS—very fine sand, and VFSL—very fine sandy loam*. Terms used in lieu of texture are *WB—weathered bedrock and UWB—unweathered bedrock*. The texture modifiers that may apply to textural classes are *BY—bouldery, BYV—very bouldery, BYX—extremely bouldery, CB—cobbly, CBV—very cobbly, CBX—extremely cobbly, CN—channery, CNV—very channery, CNX—extremely channery, FL—flaggy, FLV—very flaggy, FLX—extremely flaggy, GR—gravelly, GRV—very gravelly, GRX—extremely gravelly, PCN—parachannery, PCNV—very parachannery, SR—stratified, ST—stony, STV—very stony, and STX—extremely stony*.

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The outermost inclined surface at the base of a hill; part of a footslope.

**Too acid** (in tables). The soil is so acid that growth of plants is restricted.

**Too arid** (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

**Too clayey** (in tables). The soil is slippery and sticky when wet and slow to dry.

**Too sandy** (in tables). The soil is soft and loose, droughty, and low in fertility or is too fine to use as gravel.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Toxicity** (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Trafficability.** The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

**Tread.** The relatively flat surface that was cut or built by stream or wave action.

**Unstable fill** (in tables). Risk of caving or sloughing on banks of fill material.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Valley.** An elongated depressional area primarily developed by stream action.

**Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

**Variegation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Very deep soil.** A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Very shallow soil.** A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Water-spreading.** Diverting runoff from natural channels by means of a system of dams, dikes, or ditches and spreading it over relatively flat surfaces.

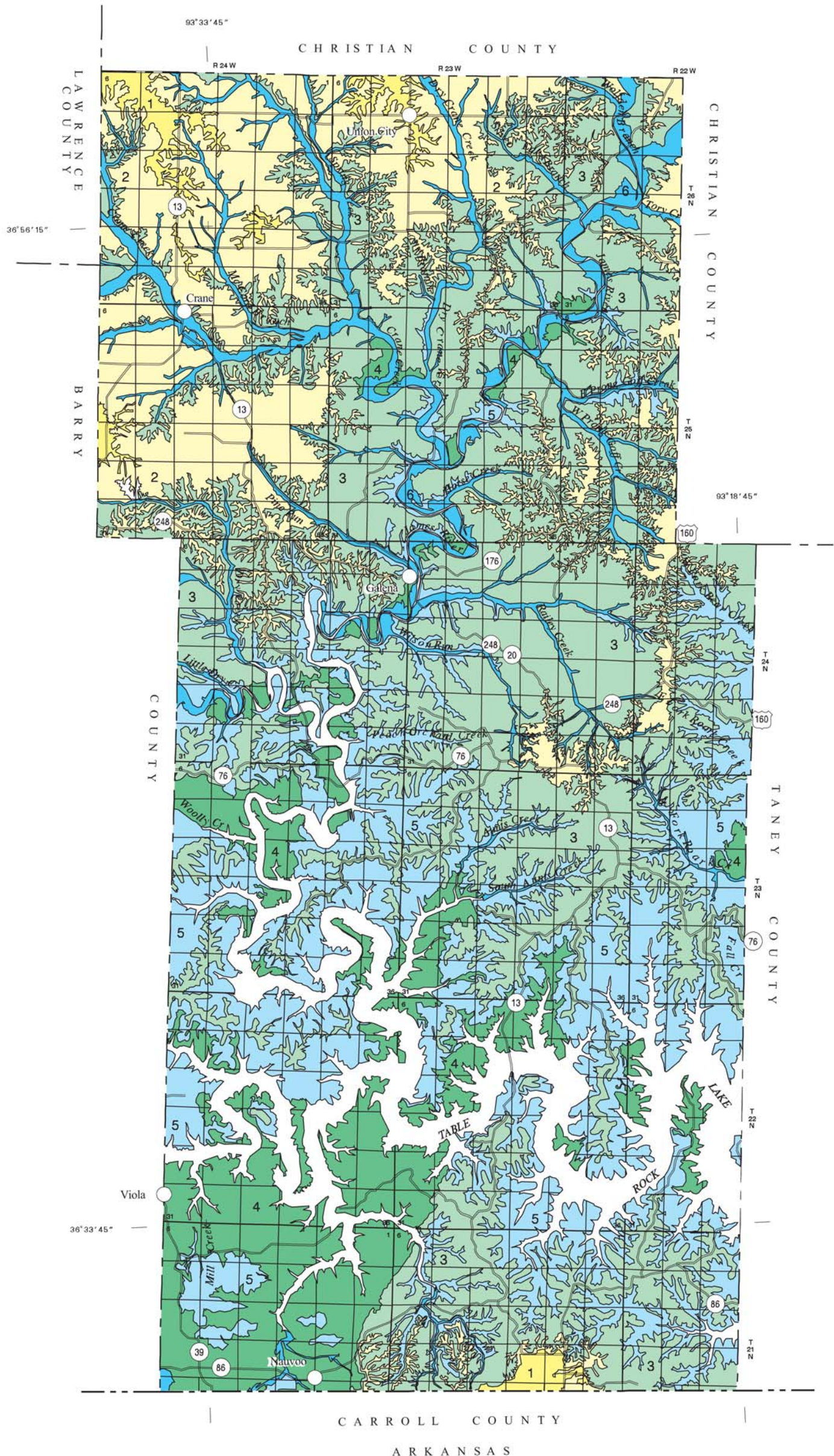
**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wetness** (in tables). The soil is wet during the period of desired use.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.



SOIL LEGEND

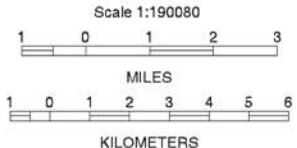
- 1 Tonti-Scholten association
- 2 Noark-Rueter-Scholten association
- 3 Hailey-Rueter association
- 4 Gasconade-Alred association
- 5 Sonsac-Moko-Rock outcrop association
- 6 Pinerun-Britwater-Hootentown association

Compiled 1998

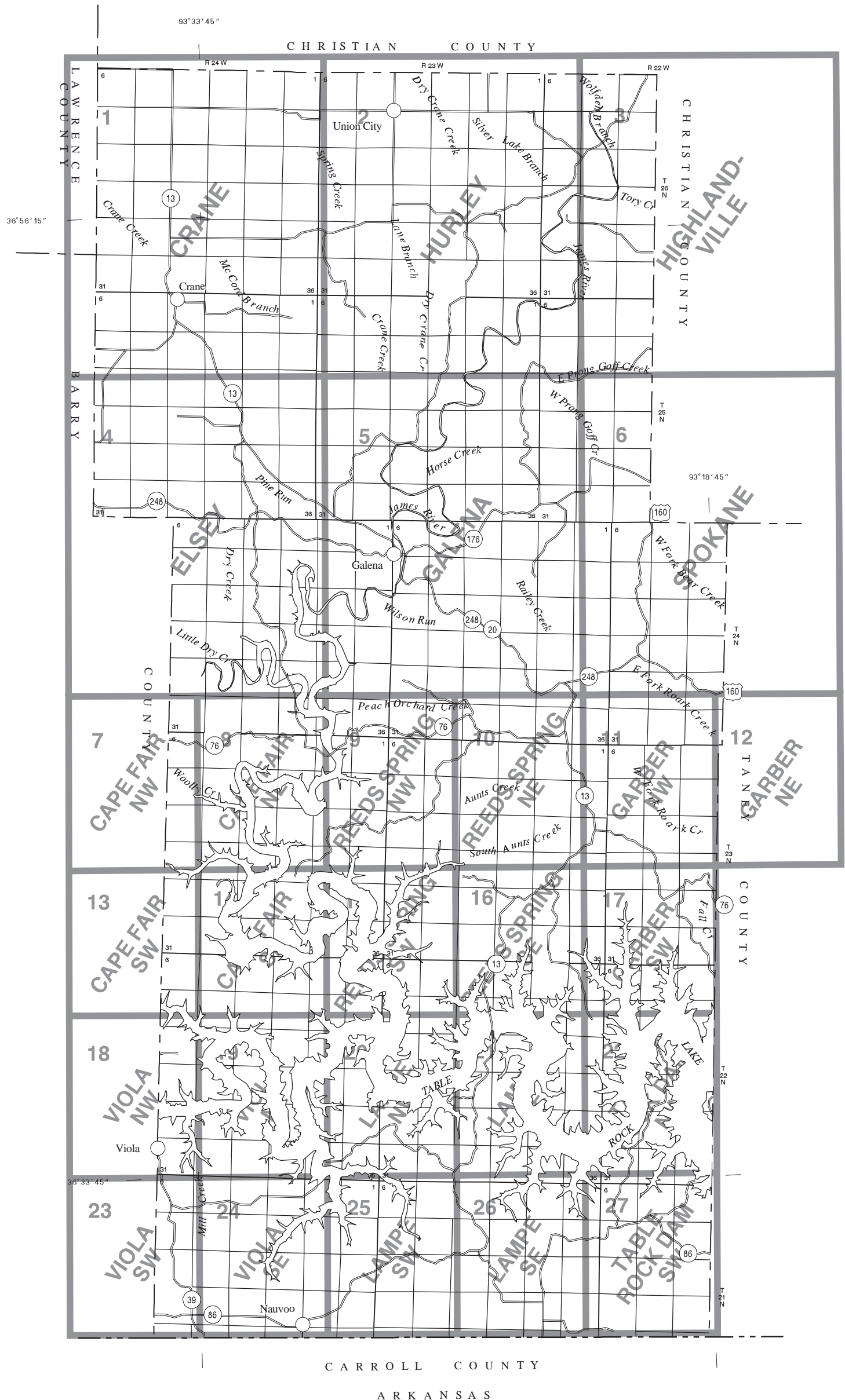
SECTIONALIZED TOWNSHIP						
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE  
in cooperation with  
MISSOURI DEPARTMENT OF NATURAL RESOURCES,  
UNITED STATES FOREST SERVICE,  
MISSOURI AGRICULTURAL EXPERIMENT STATION AND  
MISSOURI DEPARTMENT OF CONSERVATION

GENERAL SOIL MAP  
STONE COUNTY, MISSOURI



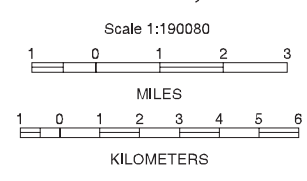
Each area outlined on this map consists of more than one kind of soil. The map is meant for general planning rather than a basis for decisions on the use of specific tracts.



SECTIONALIZED  
TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS  
STONE COUNTY, MISSOURI



SOIL LEGEND

Approved map symbols consist of a five digit number. This number relates to the MLRA in which the official series typifying pedon resides and to the landform on which it occurs.

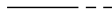
SYMBOL	NAME
70030	Noark-Clarksville complex, 3 to 8 percent slopes
70031	Hailey-Rueter complex, 15 to 35 percent slopes, very rocky
70032	Tonti silt, 1 to 3 percent slopes
70033	Moko-Rock outcrop complex, 8 to 15 percent slopes
70034	Moko-Blueye-Rock outcrop complex, 15 to 50 percent slopes
70035	Sonsac-Gobbler complex, 15 to 20 percent slopes
70036	Sonsac-Gobbler complex, 20 to 35 percent slopes, very stony
70037	Sonsac-Rueter complex, 35 to 70 percent slopes, very rocky
70038	Moko-Rock outcrop complex, 3 to 8 percent slopes, very stony
70050	Rueter-Goss complex, 8 to 15 percent slopes, karst
70051	Hailey-Rueter complex, 15 to 35 percent slopes, very rocky, karst
71252	Britwater gravelly silt loam, 3 to 8 percent slopes
73070	Sowcoon silt loam, 0 to 3 percent slopes, frequently ponded
73113	Scholten gravelly silt loam, 3 to 8 percent slopes
73114	Captina silt loam, 1 to 3 percent slopes
73115	Horneybuck-Tonti complex, 3 to 8 percent slopes
73116	Pomme silt loam, 2 to 5 percent slopes
73117	Clarksville-Scholten-Hailey complex, 3 to 15 percent slopes
73118	Rueter-Goss complex, 8 to 20 percent slopes
73119	Rueter-Hailey complex, 35 to 60 percent slopes, rocky
73120	Rueter-Gasconade-Rock outcrop complex, 35 to 60 percent slopes
73121	Scholten-Tonti complex, 3 to 8 percent slopes
73122	Gasconade-Rock outcrop complex, 50 to 90 percent slopes
73123	Mano-Ocie complex, 3 to 15 percent slopes
73124	Alred-Ocie complex, 15 to 50 percent slopes, stony
73125	Knobby-Rock outcrop complex, 3 to 15 percent slopes
73126	Knobby-Rock outcrop complex, 15 to 50 percent slopes
73127	Gobbler-Sonsac complex, 3 to 8 percent slopes
73128	Gobbler-Sonsac complex, 8 to 15 percent slopes, stony
73129	Gasconade gravelly clay loam, 3 to 8 percent slopes
73130	Gasconade very gravelly clay loam, 8 to 15 percent slopes, very rocky
73131	Gasconade very gravelly silty clay, 15 to 20 percent slopes, very rocky
73132	Gasconade very channery silty clay loam, 20 to 35 percent slopes, very rocky
73133	Alred-Ocie complex, 3 to 8 percent slopes
73134	Alred-Ocie-Sonsac complex, 8 to 15 percent slopes, stony
74638	Waben very gravelly silt loam, 3 to 8 percent slopes
74639	Waben extremely gravelly silt loam, 8 to 15 percent slopes
74640	Hootentown silt loam, 0 to 3 percent slopes, rarely flooded
75401	Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded
75402	Pinerun silt loam, 0 to 3 percent slopes, occasionally flooded
75403	Cedargap-Woolly complex, 0 to 5 percent slopes, occasionally flooded
75404	Pinerun gravelly silt loam, 0 to 3 percent slopes, occasionally flooded
75405	Pinerun-Waben complex, 0 to 5 percent slopes
99000	Pits, quarries
99001	Water
99005	Landfills

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

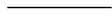
National, state, or province



County or parish



Field sheet matchline and neatline



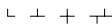
AD HOC BOUNDARY  
(label)



Cemetery



LAND DIVISION CORNER  
(sections and land grants)



ROADS

Divided (median shown if scale permits)



Other roads



ROAD EMBLEM & DESIGNATIONS

Federal

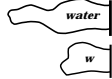


State



DAMS

Medium or Small  
(Named where applicable)



WATER FEATURES

DRAINAGE

Perennial, double line



Intermittent



MISCELLANEOUS WATER FEATURES

Wet spot



SPECIAL SYMBOLS FOR  
SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS



ESCARPMENTS

Bedrock (points down slope)



SHORT STEEP SLOPE



SINKHOLE



PITS

Borrow pit



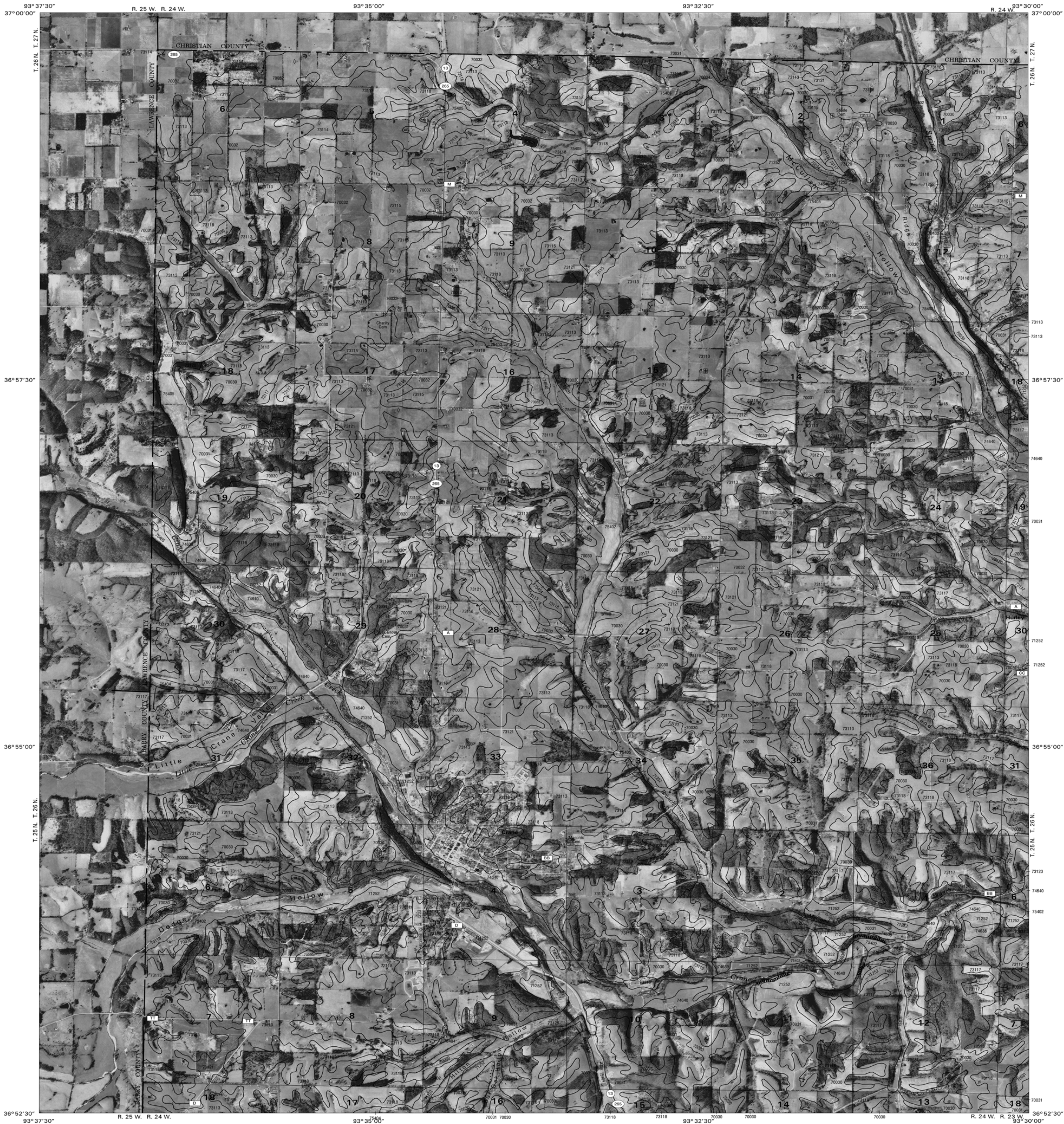
MISCELLANEOUS

Very stony spot



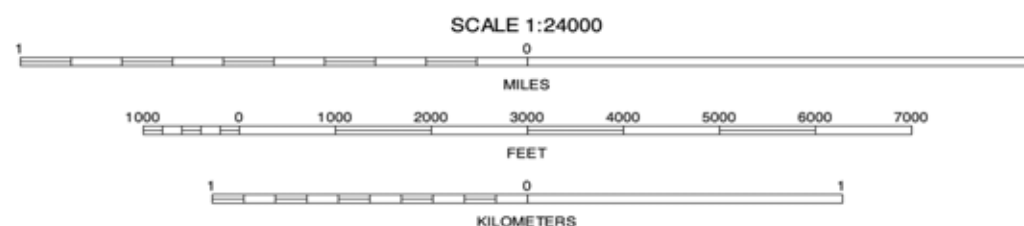
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

STONE COUNTY, MISSOURI  
CRANE QUADRANGLE  
SHEET NUMBER 1 OF 27



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1984-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3	1 CHESAPEAKE
4		5	2 BILLINGS
6	7	8	3 REPUBLIC
			4 AURORA
			5 HURLEY
			6 JENKINS
			7 ELSEY
			8 GALENA

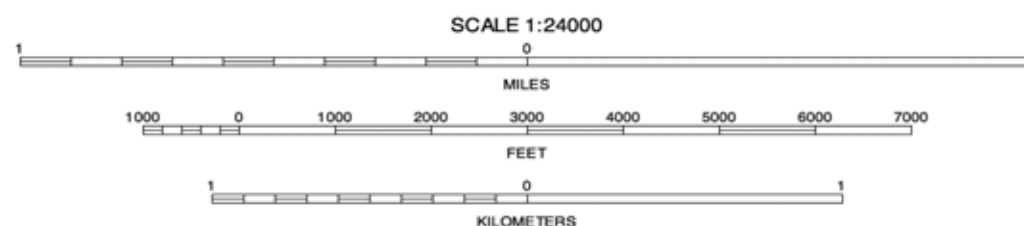
INDEX TO ADJOINING 7.5 MAPS

CRANE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 1 OF 27



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1984-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



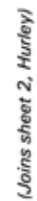
1	2	3	1. BILLINGS
4	5	2. REPUBLIC	
6	7	3. NIXA	
		4. CRANE	
		5. HIGHLANDVILLE	
		6. ELSEY	
		7. GALENA	
		8. SPOKANE	

INDEX TO ADJOINING 7.5 MAPS

HURLEY, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 2 OF 27

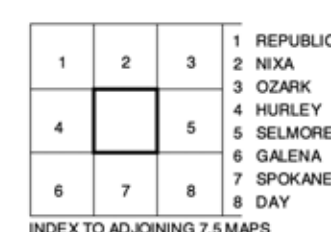
STONE COUNTY, MISSOURI  
HIGHLANDVILLE QUADRANGLE  
SHEET NUMBER 3 OF 27

93°15'00"  
37°00'00"

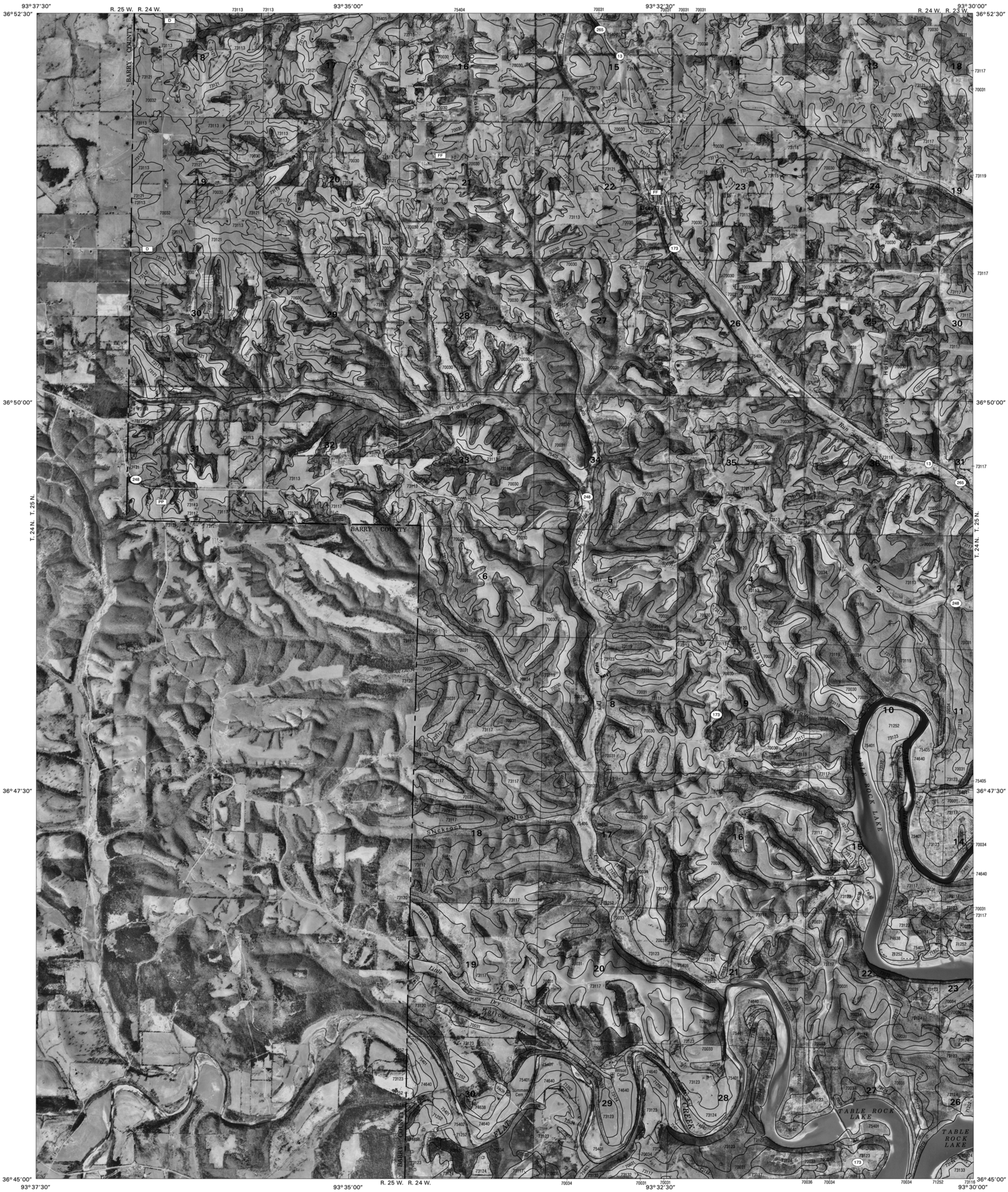


A map of the state of Missouri with a black dot indicating the location of the study area in the southwestern corner. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". Below the map is the text "QUADRANGLE LOCATION".

QUADRANGLE LOCATION

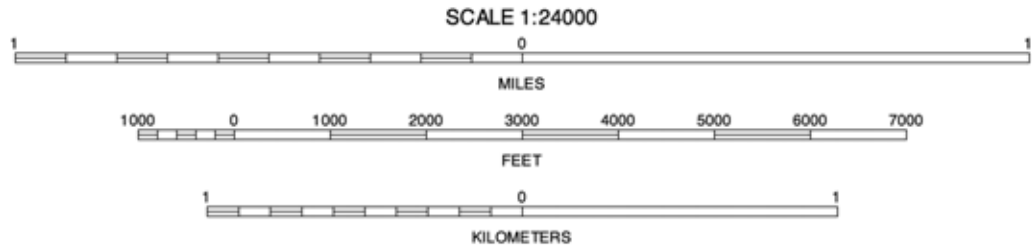


HIGHLANDVILLE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 27



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3
4	5	6
7	8	9

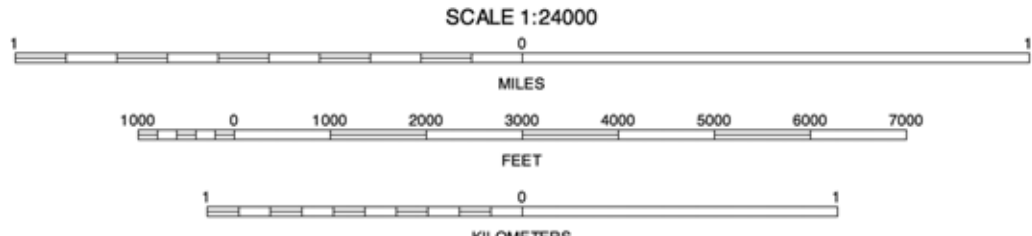
INDEX TO ADJOINING 7.5 MAPS

ELSEY, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 27



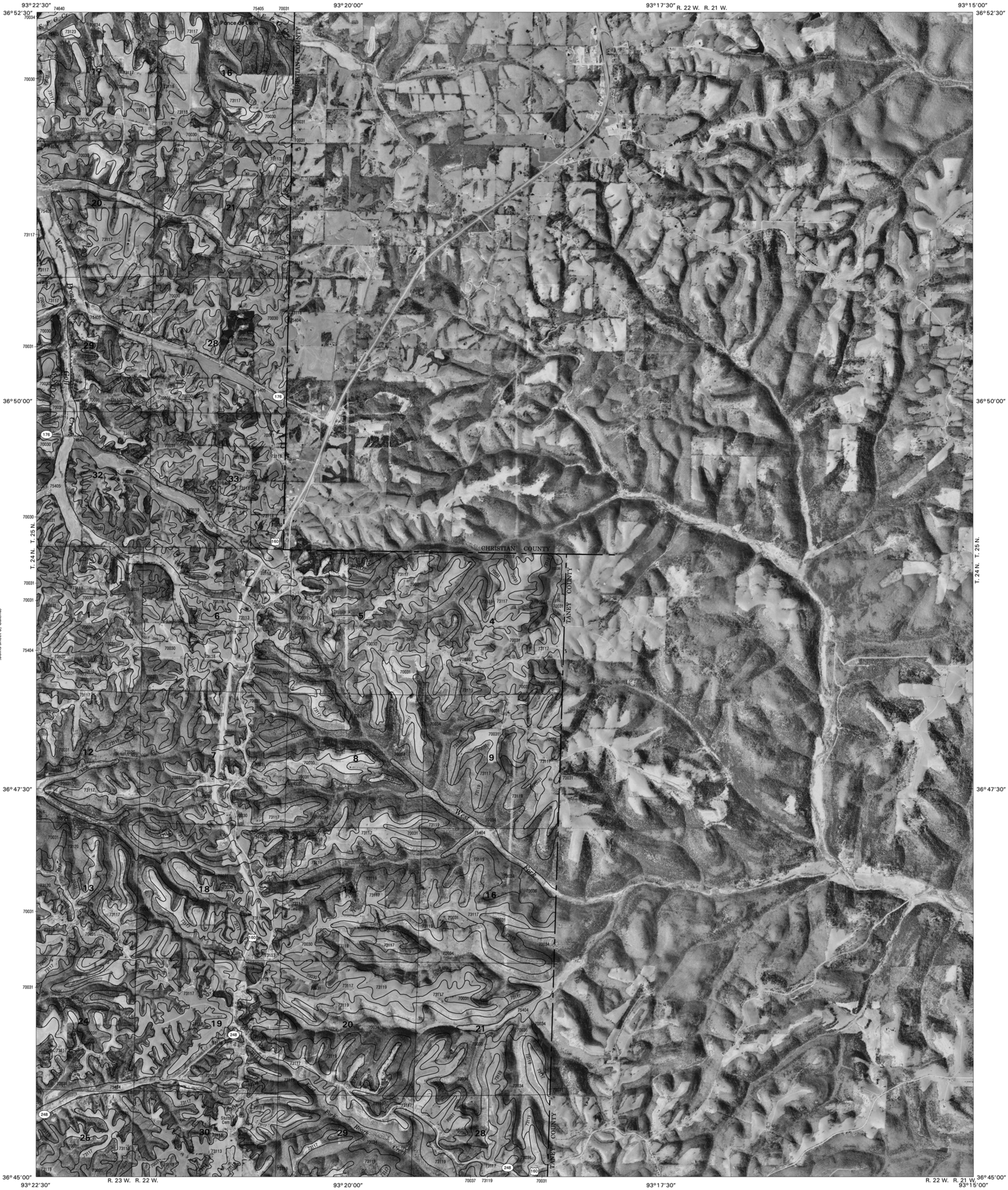
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1964-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks. Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3
4	5	6
7	8	9

GALENA, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 27

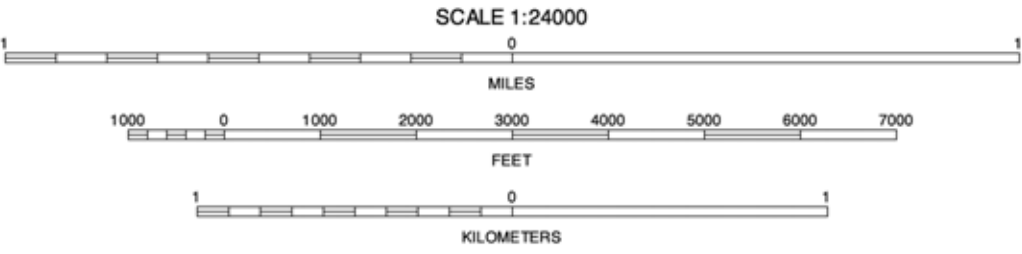


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1964-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MINUTE MAPS

SPOKANE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 27

(Joins sheet 4, Elsey)

R. 25 W. R. 24 W.

93° 33' 45"  
36° 45' 00"

93° 37' 30"  
36° 45' 00"

T. 23 N. T. 24 N.

T. 23 N. T. 24 N.

(Joins sheet 8, Cape Fair NE)

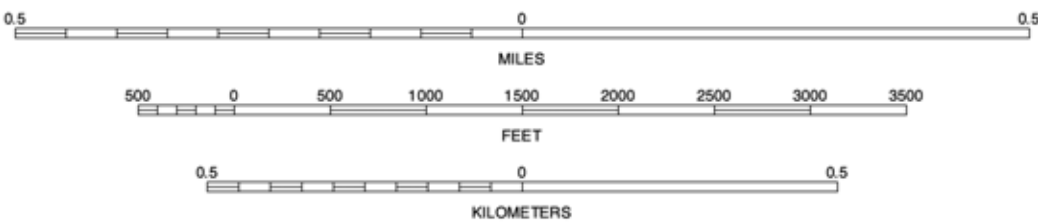
36° 41' 15"  
93° 37' 30"

R. 25 W. R. 24 W. 73128

36° 41' 15"  
93° 33' 45"

(Joins sheet 13, Cape Fair SW)

SCALE 1:12000



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE  
LOCATION

1	2	3	1 JENKINS
4	5	6	2 ELSEY
6	7	8	3 ELSEY
			4 SHELL KNOB NE
			5 CAPE FAIR NE
			6 SHELL KNOB SE
			7 CAPE FAIR SW
			8 CAPE FAIR SE

INDEX TO ADJOINING 3.75 MAPS

CAPE FAIR NW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 7 OF 27

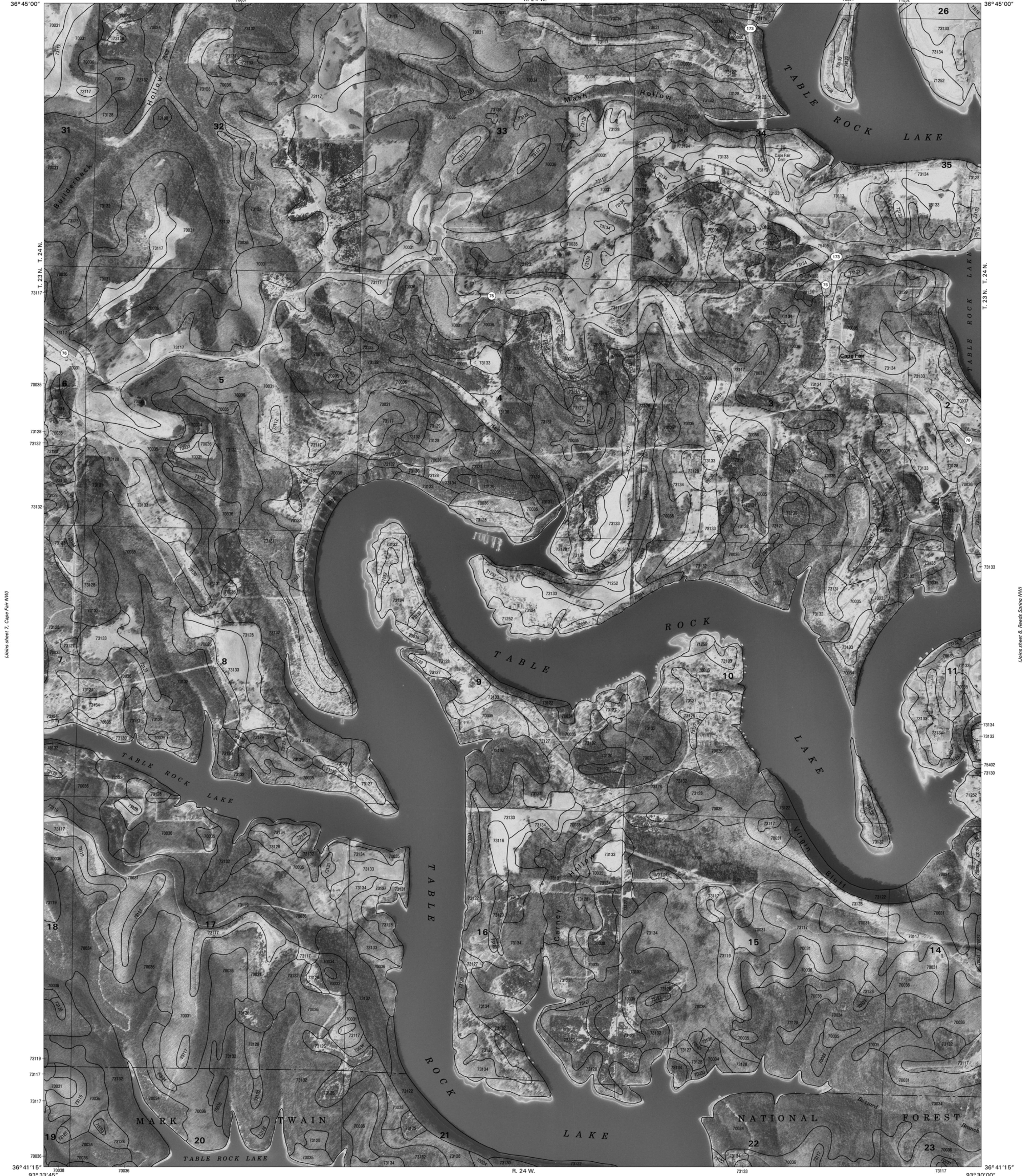
STONE COUNTY, MISSOURI  
CAPE FAIR NE QUADRANGLE  
SHEET NUMBER 8 OF 27

(Joins sheet 4, Elsey)

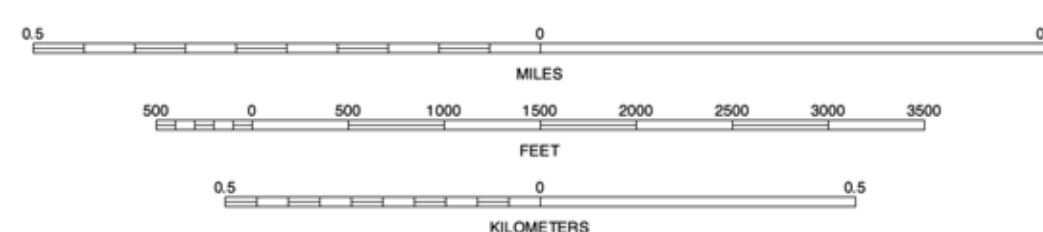
93° 33' 45"  
36° 45' 00"

R. 24 W.

93° 30' 00"  
36° 45' 00"



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.

QUARTER QUAD  
LOCATION

1	2	3	1 ELSEY
			2 ELSEY
4		5	3 GALENA
			4 CAPE FAIR NW
6	7	8	5 REEDS SPRING NW
			6 CAPE FAIR SW
			7 CAPE FAIR SE
			8 REEDS SPRING SW

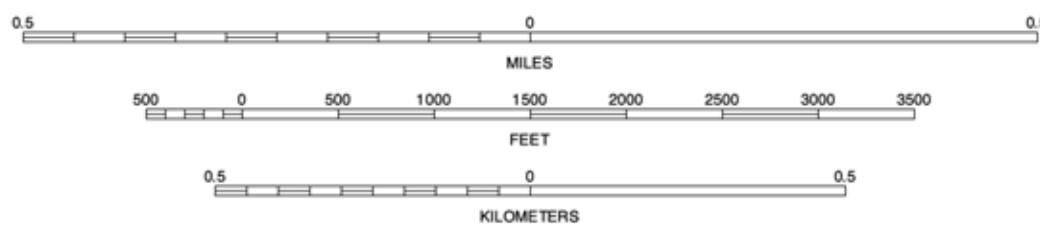
INDEX TO ADJOINING 3.75 MAPS

(Joins sheet 5, Galena)



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 3.75 MAPS

REEDS SPRING NW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 9 OF 27

(Joins sheet 5, Galena)



(Joins sheet 9, Reeds Spring NW)

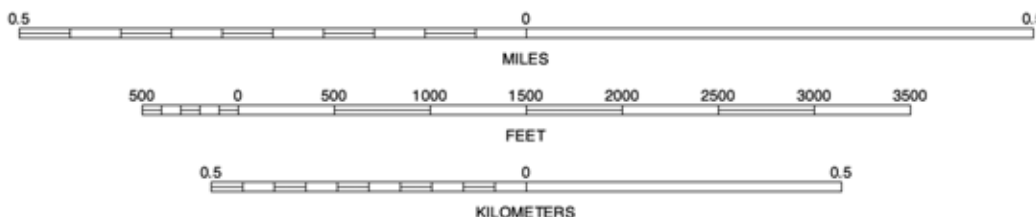
(Joins sheet 11, Garber NW)

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 3.75 MAPS

REEDS SPRING NE, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 10 OF 27

STONE COUNTY, MISSOURI  
GARBER NW QUADRANGLE  
SHEET NUMBER 11 OF 27

(Joins sheet 6, Spokane)



A map of the state of Missouri is shown. A small black dot is located in the southwestern part of the state, representing the location of the Quarter Quadrangle. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". Below the map, the text "QUARTER QUADRANGLE LOCATION" is printed.

1	2	3	1 GALENA
			2 SPOKANE
			3 SPOKANE
4		5	4 REEDS SPRING NE
			5 GARBER NE
6	7	8	6 REEDS SPRING SE
			7 GARBER SW
			8 GARBER SE

INDEX TO ADJOINING 3.75 MAPS

(Joins sheet 6, Spokane)

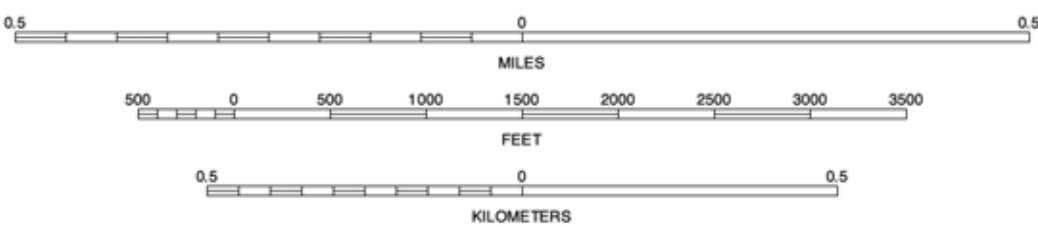


(Joins sheet 11, Garber NW)

(Joins sheet 17, Garber SW)

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1934-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 3.75 MAPS

GARBER NE, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 12 OF 27

(Joins sheet 7, Cape Fair NW)

93° 37' 30"  
36° 41' 15"

R. 25 W. R. 24 W.

93° 33' 45"  
36° 41' 15"



T. 22 N. T. 23 N.

T. 22 N. T. 23 N.

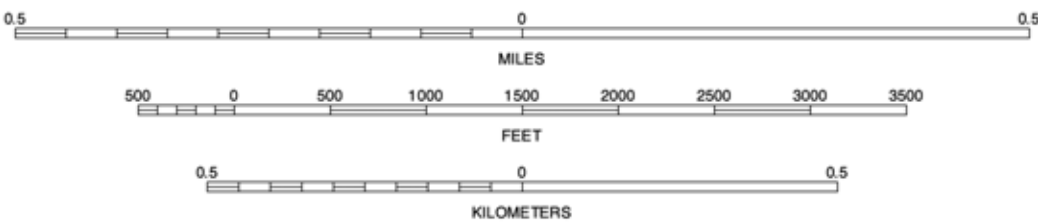
36° 37' 30"  
93° 37' 30"

R. 25 W. R. 24 W.

36° 37' 30"  
93° 33' 45"

(Joins sheet 18, Viola NW)

SCALE 1:12000



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



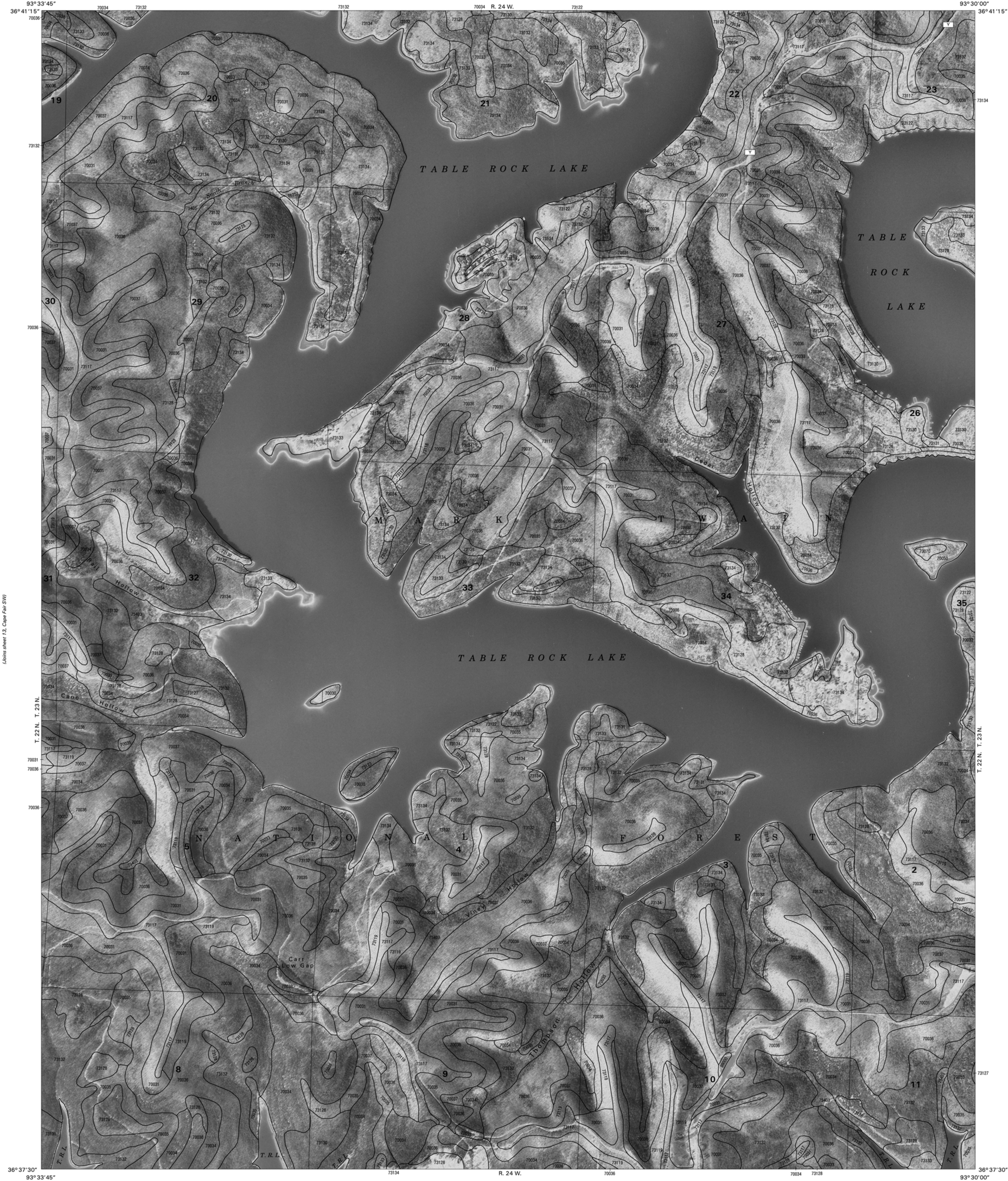
QUARTER QUADRANGLE  
LOCATION

1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 3.75 MAPS

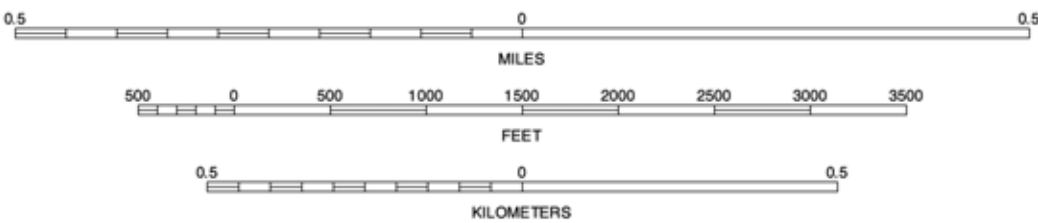
CAPE FAIR SW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 13 OF 27

(Joins sheet 8, Cape Fair NE)



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



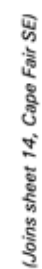
1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 3.75 MINUTE MAPS

CAPE FAIR SE, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 14 OF 27

STONE COUNTY, MISSOURI  
REEDS SPRING SW QUADRANGLE  
SHEET NUMBER 15 OF 27

(Joins sheet 9, Reeds Spring NW)

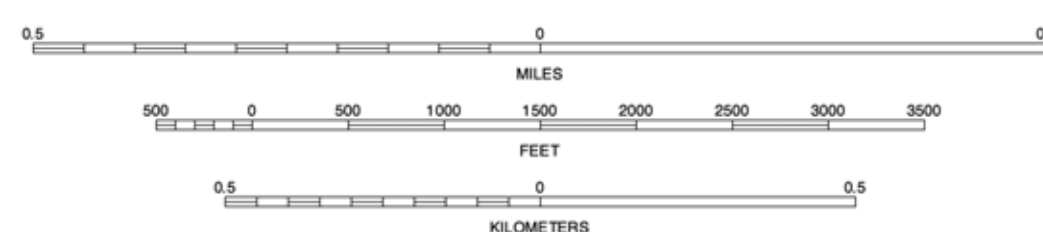


Joins sheet 10, needs spring 3E1

QUARTER QUADRANGLE  
LOCATION

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.

SCALE 1:12000



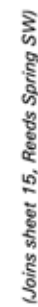
1	2	3	1 CAPE FAIR NE
			2 REEDS SPRING NW
			3 REEDS SPRING NE
4		5	4 CAPE FAIR SE
			5 REEDS SPRING SE
6	7	8	6 VIOLANE
			7 LAMPE NW
			8 LAMPE NE

INDEX TO ADJOINING 3.75 MAPS

REEDS SPRING SW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 15 OF 27

STONE COUNTY, MISSOURI  
REEDS SPRING SE QUADRANGLE  
SHEET NUMBER 16 OF 27

(Joins sheet 10, Reeds Spring NE)



(MSC JARVIS 11, GARBAR 3W)

A map of the state of Missouri is shown. A small black dot is located in the southwestern corner of the state, representing the location of the Quarter Quadrangle. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". Below the map, the text "QUARTER QUADRANGLE LOCATION" is printed.

The figure contains three horizontal scale bars, each with a central zero point and markings on both sides. The top bar is labeled 'MILES' and has markings at 0.5, 1, 1.5, 2, 2.5, 3, 3.5, and 4. The middle bar is labeled 'FEET' and has markings at 500, 1000, 1500, 2000, 2500, 3000, and 3500. The bottom bar is labeled 'KILOMETERS' and has markings at 0.5, 1, and 1.5.

1	2	3	1 REEDS SPRING NW
			2 REEDS SPRING NE
4		5	3 GARBER NW
			4 REEDS SPRING SW
6	7	8	5 GARBER SW
			6 LAMPE NW
			7 LAMPE NE
			8 TABLE ROCK DAM NW

INDEX TO ADJOINING 3.75 MAPS

(Joins sheet 11, Garber NW and sheet 12, Garber NE)

93° 22' 30"

R. 23 W. R. 22 W.

93°18'45"

36°41'15"



T. 22 N. T. 23 N.

T. 22 N. T. 23 N.

36° 37' 30" 70031  
93° 22' 30"

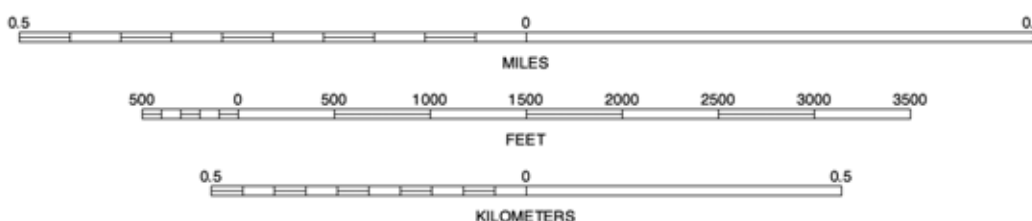
R, 23 W, R, 22 W.

(Joins sheet 22, Table Rock Dam NW)

SCALE 1:12000

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.

QUARTER QUADRANGLE  
LOCATION

1	2	3	1 REEDS SPRING NE
			2 GARBER NW
			3 GARBER NE
4		5	4 REEDS SPRING SE
			5 GARBER SE
6	7	8	6 LAMPE NE
			7 TABLE ROCK DAM
			8 TABLE ROCK DAM

INDEX TO ADJOINING 3.75 MAPS

(Joins sheet 13, Cape Fair SW)

93° 37' 30"  
36° 37' 30"

93° 33' 45"  
36° 37' 30"

T. 22 N.

T. 22 N.

(Joins sheet 15, Viola NE)

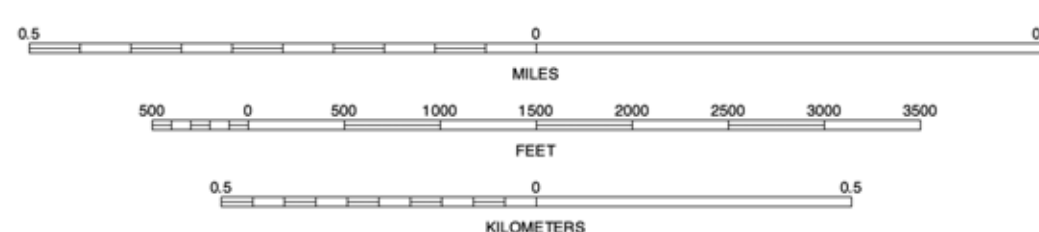
36° 33' 45"  
93° 37' 30"

R. 25 W. R. 24 W. 73133 75405

36° 33' 45"  
93° 33' 45"

(Joins sheet 23, Viola SW)

SCALE 1:12000



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



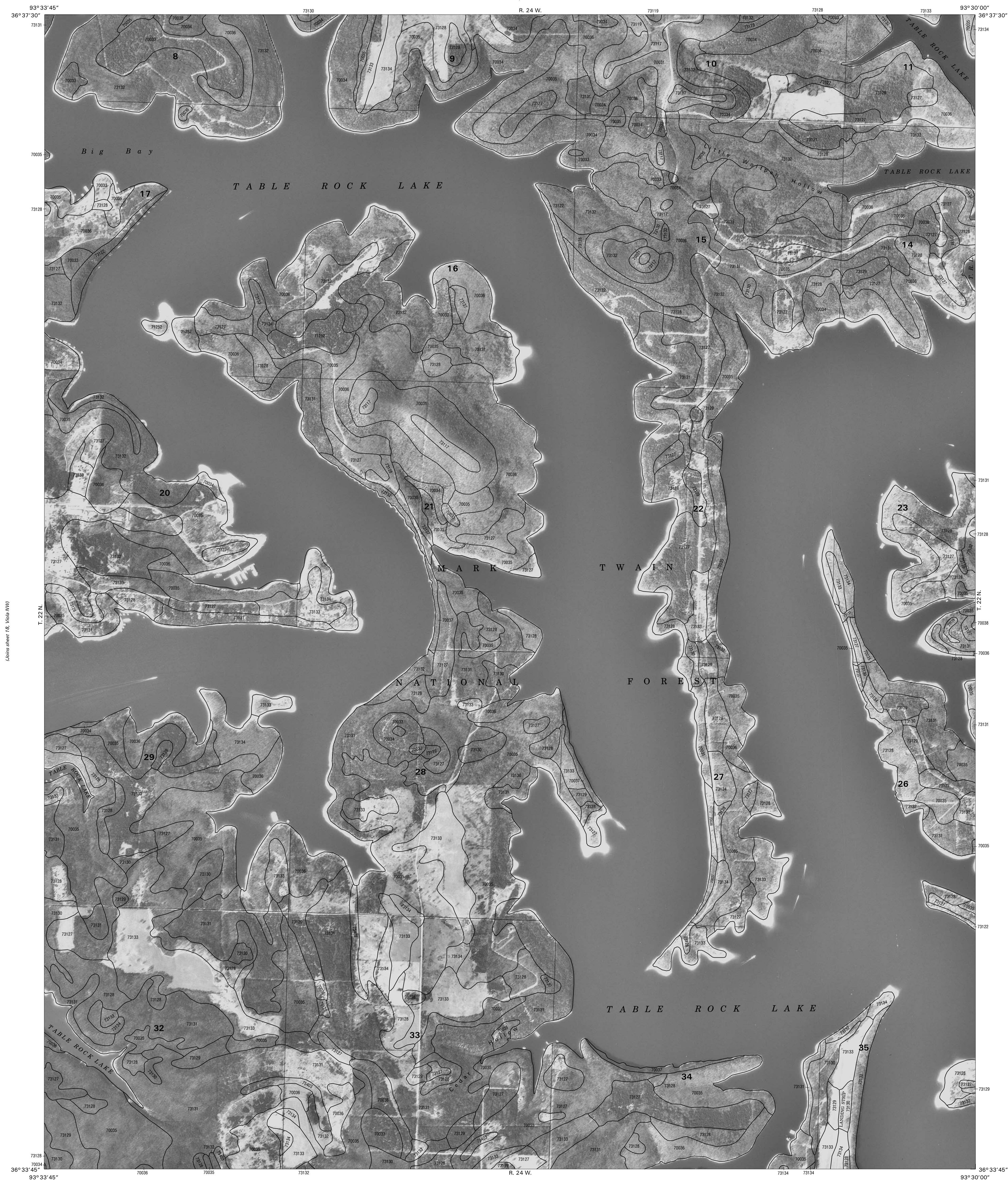
1	2	3
4	5	
6	7	8

INDEX TO ADJOINING 3.75 MAPS

VIOLA NW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 18 OF 27

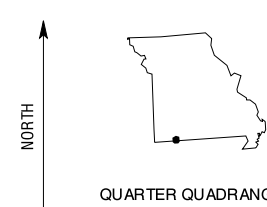
STONE COUNTY, MISSOURI  
VIOLA NE QUADRANGLE  
SHEET NUMBER 19 OF 27

(Joins sheet 14, Cape Fair SE)

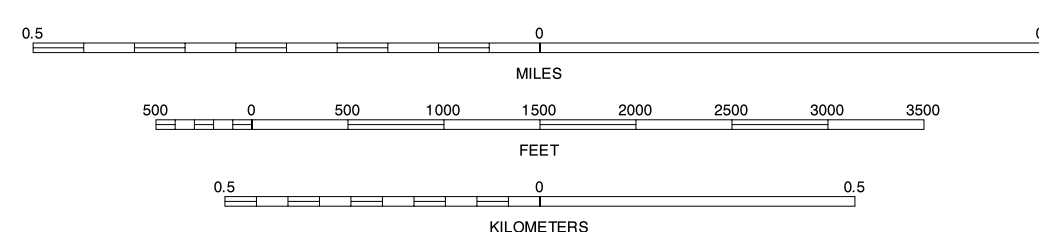


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUARTER QUADRANGLE



1	2	3	1 CAPE FAIR SW
			2 CAPE FAIR SE
4		5	3 REEDS SPRING SW
			4 VIOLA NW
6	7	8	5 LAMPE NW
			6 VIOLA SW
			7 VIOLA SE
			8 LAMPE SW

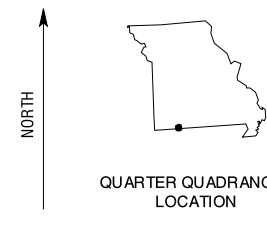
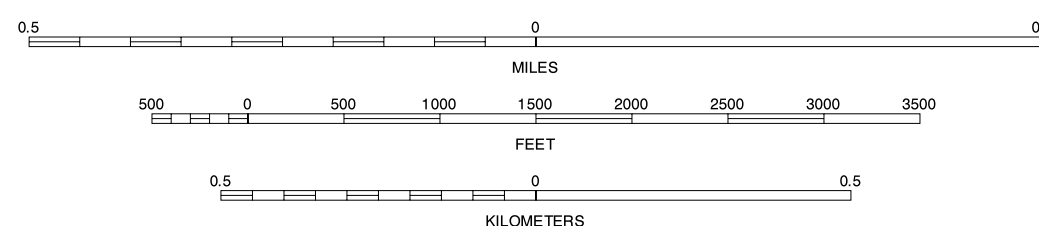
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(Joins sheet 15, Reeds Spring SW)

R. 24 W. R. 23 W.

(Joins sheet 25, Lampe SW)

SCALE 1:12000



1	2	3
4	5	
6	7	8

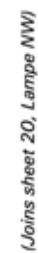
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LAMPE NW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 20 OF 27

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

(Joins sheet 16, Reeds Spring SE)

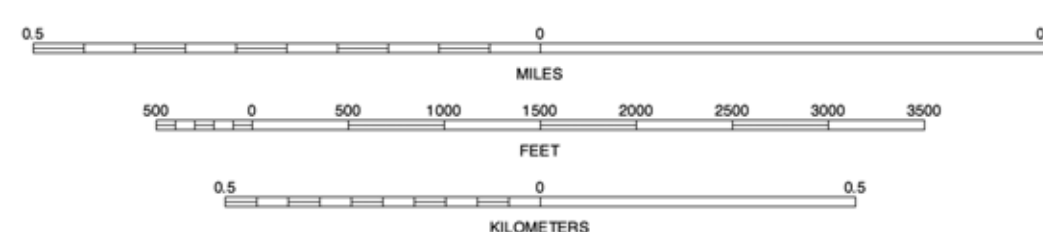


(Joins sheet 22, Table Rock Dam NW)

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUARTER QUADRANT



1	2	3	1 REEDS SPRING SW
4		5	2 REEDS SPRING SE
6	7	8	3 GARBER SW
			4 LAMPE NW
			5 TABLE ROCK DAM NW
			6 LAMPE SW
			7 LAMPE SE
			8 TABLE ROCK DAM SW

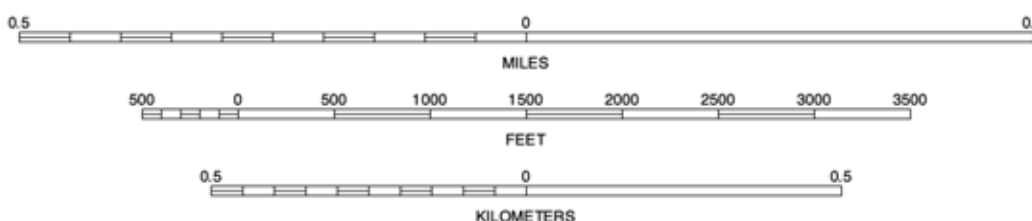
INDEX TO ADJOINING 3.75 MAPS

(Joins sheet 17, Garber SW)



(Joins sheet 27, Table Rock Dam SW)

SCALE 1:12000



1	2	3
4	5	6
7	8	9

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TABLE ROCK DAM NW, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 22 OF 27

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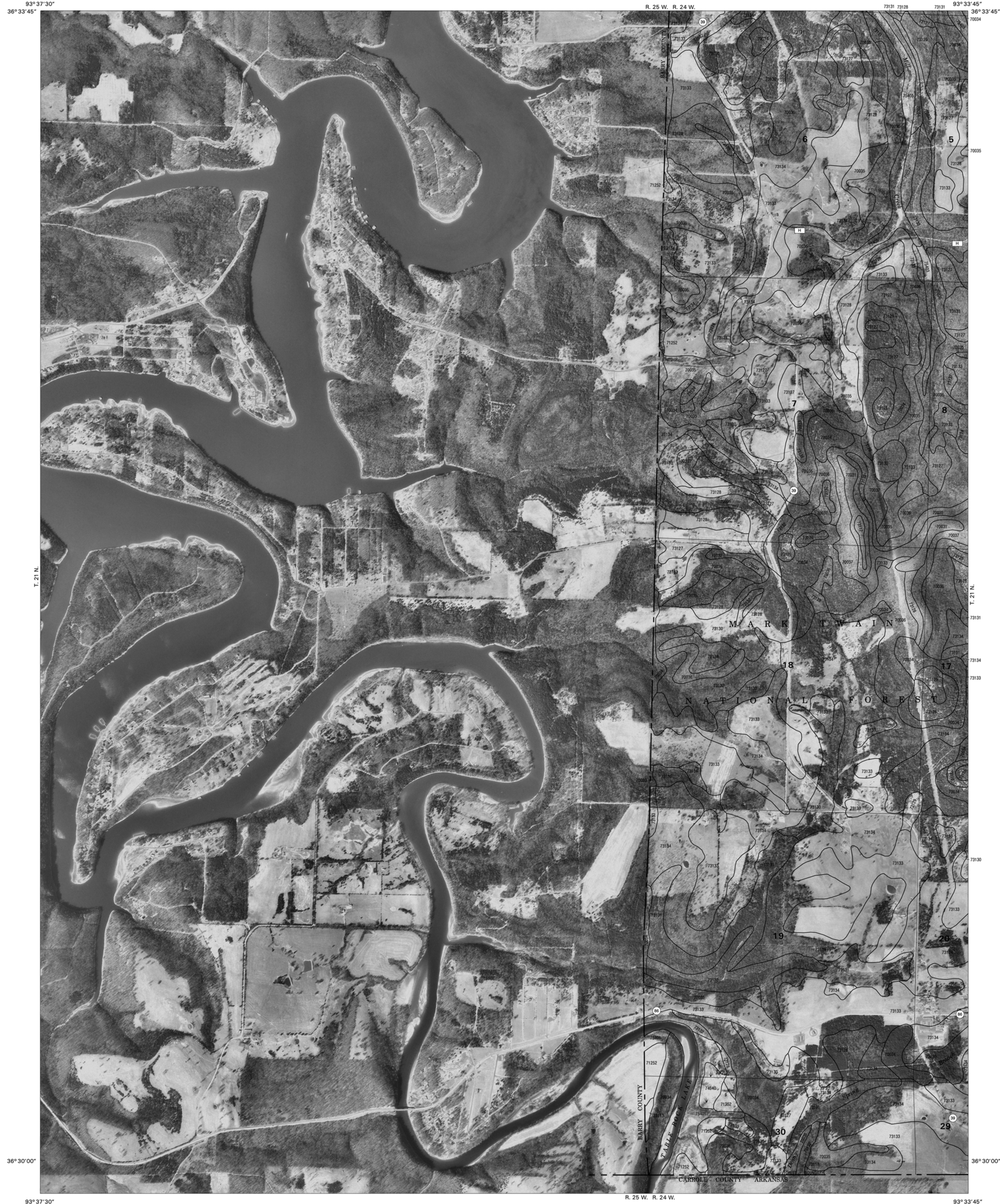
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



(Joins sheet 18, Viola NW)

R. 25 W. R. 24 W.

73131 73128 73131 93°33'45"

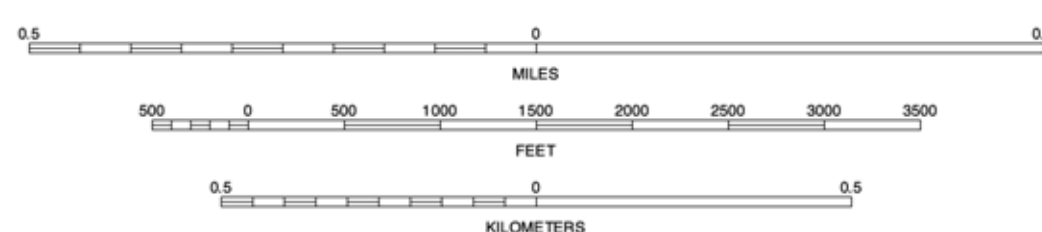


Joins sheet 24, Viola SE)

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.

QUARTER QUADRANGLE  
LOCATION

SCALE 1:12000

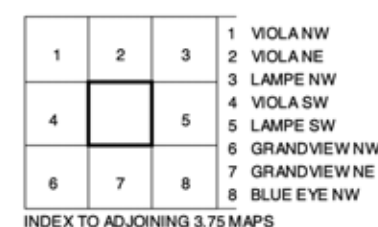


1	2	3	1 GOLDEN NE
			2 VIOLAN NW
			3 VIOLA NE
4		5	4 GOLDEN SE
			5 VIOLA SE
			6 EUREKA SPRINGS NE
6	7	8	7 GRANDVIEW NW
			8 GRANDVIEW NE

VIOLA SW, MISSOURI  
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STONE COUNTY, MISSOURI  
VIOLA SE QUADRANGLE  
SHEET NUMBER 24 OF 27

(Joins sheet 19, Viola NE



VIOLA SE, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 24 OF 27

(Joins sheet 20, Lampe NW)

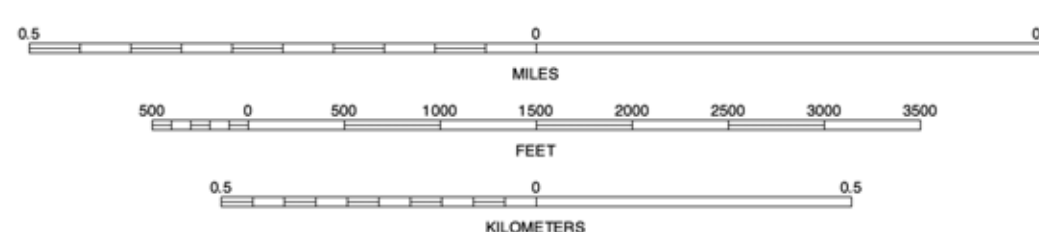


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION



1	2	3
4	5	6
7	8	9

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LAMPE SW, MISSOURI  
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SHEET NUMBER 25 OF 27

(Joins sheet 21, Lampe NE)

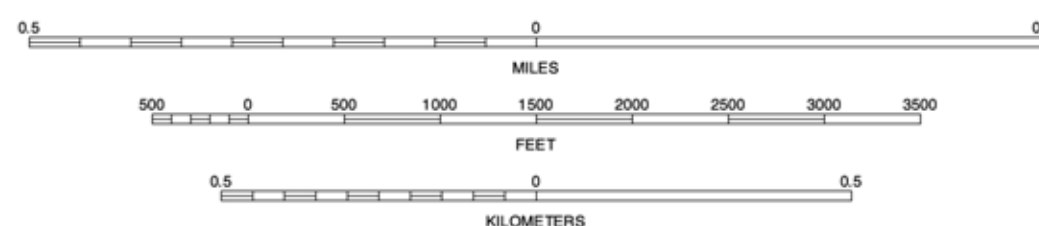


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-2000 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION

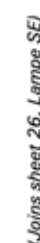


1	2	3
4	5	
6	7	8

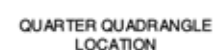
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LAMPE SE, MISSOURI  
3.75 MINUTE SERIES  
SHEET NUMBER 26 OF 27

(Joins sheet 22, Table Rock Dam NW)



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



SCALE 1:12000

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